

THE PROCESS OF CAREER DEVELOPMENT
FOR COMMUNITY COLLEGE INSTRUCTORS:
TEST OF A THEORY

BY

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DEDICATION

In honor of

Lilly Katrina Lessman Kuretsch

and

In loving memory of

Edmund Christopher Kuretsch
Maude Vivian Dunlap Willis
William Newton Willis, Sr.

My grandparents

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Abstract of Dissertation Presented to the Graduate Council
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By

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The purpose of this study was to formulate and test a theory of the process of the career development and growth for two-year college instructors based on the Career Development Model of Douglas T. Hall. Four hundred eighty-three full-time teaching faculty at eight two-year colleges across six states were surveyed using the Work Experiences Questionnaire developed for this investigation. The instrument measured the instructor's level of perceived work challenge and meaning, supportive autonomy, feedback and recognition, psychological success, self-image, work satisfaction, and job involvement. In addition, information regarding educational preparation, age, and job tenure was requested via this questionnaire. A path model was constructed which specified predicted causal relationships among these variables, and path analysis was used to test 14 hypotheses pertaining to these variables.

A χ^2 of 15.903 with 10 degrees of freedom was significant at the .05 level, which indicated a reasonable fit of the specified path model to the sample data. Educational preparation, age, and job tenure did not affect the instructors' perceptions of the levels of supportive autonomy or feedback and recognition, contrary to prediction. The level of perceived work challenge and meaning partially determined the level of perceived supportive autonomy ($p < .05$), which likewise partially determined the level of perceived feedback and recognition ($p < .05$), as predicted by Hall's model. However, the instructors' perceived levels of work challenge and meaning, supportive autonomy, and feedback and recognition were not predictive of the perceived level of psychological success, contrary to Hall's model. The remaining components of Hall's model received support as a result of this study. The level of psychological success partially determined self-image, self-image partially determined the level of work satisfaction, and the level of work satisfaction partially determined the level of job involvement ($p < .05$).

The research had implications for the systematic study of the process of career growth and development for community college faculty. The achievement of an internal feeling of success appears to be a key factor to the attainment of positive work attitudes--self-image, work satisfaction, and job involvement.

CHAPTER ONE

INTRODUCTION

As with other educational institutions, the most valuable resource of the community college has always been its faculty. The faculty has been highly valued because, through the continued growth and development of the faculty, the viability of the institution itself is ensured. However, Astin ("Teaching skills . . .," 1980) and Bucher (1981), among others, have voiced concern about the capability of faculty to experience growth from their work in view of current economic conditions and the constraints being imposed on the faculty as a result. The forces and experiences that affect the continued growth and development of the faculty must be investigated in a systematic manner if the viability of faculty, and indeed of educational institutions, is to be maintained.

Worker alienation and declining productivity have been problems for organizations for some time. For organizations the continuing growth and development or career development of their employees has become a major issue (Hall, 1976). Organizational behaviorists have studied the process of career development for individuals because one's career was seen as representing one's entire life in the work setting. Also, with the advent of the civil and women's rights movements, work has been identified as an agent for social change.

In view of the importance of work in one's life, managers who understand the career interests and career dynamics of their subordinates, it has been rationalized, will be able to bring about change more effectively if the managers are sensitive to their workers' career interests (Hall, 1976).

When investigating the process of career development, organizational behaviorists examined what facilitated the process of growth and involvement in a career after an individual has made a career choice. They felt that individuals who have experienced growth from their work and who, therefore, have gotten involved or "turned on" to their work, become more productive workers. The investigation of career development from this process point of view--one that can explain the how's and why's of growth and development--was thus seen as a source of information about future career performance (Hall, 1976).

Investigators of process approaches to the study of career development examined the dynamics of how and why individuals were affected by the experiences encountered during their careers. Hall's psychological success model of career development was considered one such approach to the investigation of career growth of individuals in organizations (Hall, 1976). According to Hall, the achievement of psychological success (intrinsic or self-perceived success) in a career-relevant task would lead to increased self-image, which in turn would lead to increased work satisfaction, which would lead to job involvement. To ensure that these positive work attitudes were

attained, however, certain characteristics of the work environment would have to be present: (1) challenging work, (2) supportive autonomy, and (3) feedback (Hall, 1976).

Hall's model of career development offers a means of conceptualizing the process of career development and growth for community college faculty. Through investigation of the work life of faculty in terms of Hall's model, questions concerning effective means of facilitating faculty growth will begin to be answered. In addition, the effects of teaching in a community college on instructors' perceptions of self-image, work satisfaction, and job involvement can be studied through the application of Hall's model of career development and growth.

The national trend in higher education has been toward increased educational level, age, and tenure of the faculty. These background variables have been thought to affect the willingness of faculty to grow professionally in their jobs. Knowledge about the nature of the relationship of these background variables to the variables specified in Hall's model of career development would also be relevant to an understanding of the process of development and growth for community college instructors.

Statement of the Problem

Diminishing resources and decreased mobility of faculty have created an increased need for community college faculty who continually strive for professional growth, who are involved and committed to their jobs as instructors, and who take on challenging work goals.

In spite of this need, there has been little research that studied systematically the process of career development and growth for community college instructors in terms of the work conditions or job characteristics that relate to the growth needs of faculty. Likewise, the cause-and-effect relationships among the necessary work conditions and the worker attitudes of psychological success, self-image, work satisfaction, and job involvement have not been considered. In other words, a theoretical framework which focuses on the growth needs of faculty and which then delineates relationships among job characteristics and work attitudes as moderated by background variables has not been explicated or tested for community college instructors.

Purpose

The purpose of this study was to formulate and test such a theoretical model of the career development process of two-year college instructors. A structural path model was constructed, which included 17 bivariate hypotheses among ten variables defined as follows:

x_1 Education:	The level of formal education that the instructor has received.
x_2 Age:	The instructor's age (within a range of years).
x_3 Job tenure:	The number of years the instructor has been employed at the present institution (within a range of years).
x_4 Work challenge and meaning:	The degree of challenge and meaning in one's work.
x_5 Supportive autonomy:	The degree of shared mutual authority.

X_6	Feedback and recognition:	The degree of feedback and recognition received about one's work.
X_7	Psychological success:	The degree to which one experiences intrinsic feelings of success or competence from one's job.
X_8	Self-image:	How one views oneself.
X_9	Work satisfaction:	The degree of satisfaction with a facet of one's job--the work itself.
X_{10}	Job involvement:	The degree to which one's total work situation is a part of one's life.

Path Model

Figure 1 presents the proposed theoretical model in path flowgraph form. Dill and Friedman (1979) suggested the benefits of such a path chart. It

1. Emphasizes variables as opposed to events.
2. Compels the investigator to consider the potentially intricate pattern of cause-and-effect relationships between many variables.
3. Leads directly to statistical methods (known collectively as path analysis) for quantitative study.
4. Allows expression of results in a concise diagram which eases replication and comparison across studies (p. 424).

The path chart depicted in Figure 1 is made up of 17 hypotheses concerning the structural parameters of the model under consideration. A straight line one-way arrow indicates a direct linkage between two variables. Such a relationship is illustrated as follows:



The above diagram implies that an increase in variable A would necessarily cause an increase in variable B. The following diagram illustrates

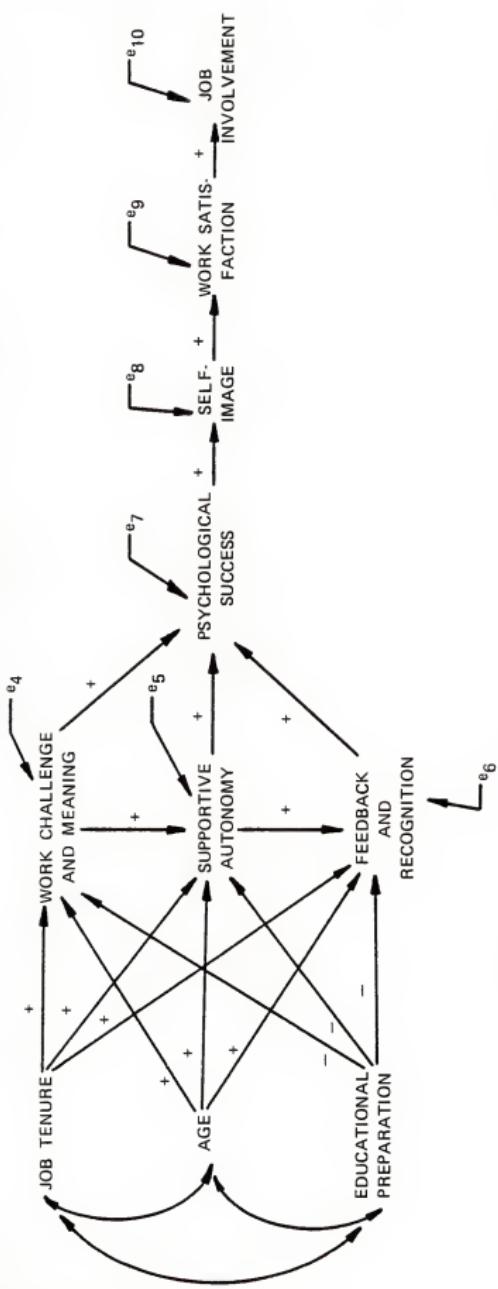


FIGURE 1. HYPOTHESIZED PATH MODEL OF THE PROCESS OF CAREER DEVELOPMENT FOR COMMUNITY COLLEGE INSTRUCTORS.

the situation where an increase in a variable causes a decrease in the variable to which it is linked.



As an illustration of this type of relationship from Figure 1, the arrow from educational preparation to work challenge and meaning could be represented by the statement, "Level of education is a cause or produces a change in one's perception of the level of challenge and meaning in one's work." The absence of an arrow between variables indicates that there is no direct relationship between those variables.

The path model illustrated in Figure 1 was considered recursive in nature. Land (1969) described a recursive path model as a model that contains "no reciprocal causations or feedback loops; that is, if x causes y , y cannot affect x either directly or through a chain of other variables" (p. 45). Work challenge, supportive autonomy, feedback and recognition, psychological success, self-image, work satisfaction, and job involvement were considered to be endogenous variables because their causes were assumed to be determined by the variables in the model and thus were explicitly included within the model. According to the model, the major direct cause of variance in job involvement (X_{10}) was hypothesized to be work satisfaction (X_9); the major direct cause of variance in work satisfaction (X_9) was hypothesized to be self-image (X_8); and the major cause of self-image (X_8) was hypothesized to be psychological success (X_7). The major direct causes of variance in psychological success (X_7) according to this model were the intermediary variable group of work challenge and

meaning (X_4), supportive autonomy (X_5), and feedback and recognition (X_6). Variance in these variables (X_4 , X_5 , and X_6) was hypothesized to be dependent on the demographic variables (education, age, and job tenure). The cause of the total variation in these variables, known as exogenous variables, was assumed to come from variables outside the model (Land, 1969). The intercorrelation of the demographic variables was represented by curved double-headed arrows. The reasons for this intercorrelation were not a problem under consideration in this study and thus were unanalyzed. Residual variables, denoted by e_i , were included in the path model to represent the effects of all other variables which might cause variation in the variables, but which were not included in the model (Land, 1969).

Hypotheses

The following overall research hypothesis was tested:

There is no significant difference between the estimated variance-covariance matrix based on the path model under study and the actual variance-covariance matrix obtained from the population data.

Specifically this investigation tested these research hypotheses:

Hypothesis 1: The greater the individual's education (X_1), the less positive the individual's report of work that is challenging (X_4).

Hypothesis 2: The greater the individual's education (X_1), the less positive the individual's report of supportive autonomy (X_5).

Hypothesis 3: The greater the individual's education (X_1), the less positive the individual's report of feedback (X_6).

Hypothesis 4: The greater the individual's age (X_2), the more positive the individual's report of work that is challenging (X_4).

Hypothesis 5: The greater the individual's age (X_2), the more positive the individual's report of supportive autonomy (X_5).

Hypothesis 6: The greater the individual's age (X_2), the more positive the individual's report of feedback (X_6).

Hypothesis 7: The greater the individual's job tenure (X_3), the more positive the individual's report of work that is challenging (X_4).

Hypothesis 8: The greater the individual's job tenure (X_3), the more positive the individual's report of supportive autonomy (X_5).

Hypothesis 9: The greater the individual's job tenure (X_3), the more positive the individual's report of feedback (X_6).

Hypothesis 10: Controlling for the effects of education (X_1), age (X_2), and job tenure (X_3), the more positive the individual's report of work that is challenging (X_4), the more positive the individual's report of supportive autonomy (X_5).

Hypothesis 11: Controlling for the effects of education (X_1), age (X_2), job tenure (X_3), and work challenge (X_4), the more positive the individual's report of supportive autonomy (X_5), the more positive the individual's report of feedback (X_6).

Hypothesis 12: Controlling for the effects of education (X_1), age (X_2), job tenure (X_3), supportive autonomy (X_5), and feedback (X_6), the more positive the individual's report of work that is challenging (X_4), the more positive the individual's feelings of psychological success (X_7).

Hypothesis 13: Controlling for the effects of education (X_1), age (X_2), job tenure (X_3), work challenge (X_4), and feedback (X_6), the more positive the individual's report of supportive autonomy (X_5), the more positive the individual's feelings of psychological success (X_7).

Hypothesis 14: Controlling for the effects of education (X_1), age (X_2), job tenure (X_3), work challenge (X_4), and supportive autonomy (X_5), the more positive the individual's report of feedback (X_6), the more positive the individual's feelings of psychological success (X_7).

Hypothesis 15: Controlling for the effects of education (X_1), age (X_2), job tenure (X_3), work challenge (X_4), supportive autonomy (X_5), and feedback (X_6), the more positive the individual's feelings of psychological success (X_7), the more positive the individual's self-image (X_8).

Hypothesis 16: Controlling for the effects of education (X_1), age (X_2), job tenure (X_3), work challenge (X_4), supportive autonomy (X_5), feedback (X_6), and psychological success (X_7), the more positive the individual's self-image (X_8), the more positive the individual's degree of work satisfaction (X_9).

Hypothesis 17: Controlling for the effects of education (X_1), age (X_2), job tenure (X_3), work challenge (X_4), supportive autonomy (X_5), feedback (X_6), psychological success (X_7), and self-image (X_8), the more positive the individual's degree of work satisfaction (X_9), the more positive the individual's feelings of job involvement (X_{10}).

Assumptions

1. All relationships between causally linked variables were assumed to be linear and additive.
2. The proposed model was recursive, and a one-way causal priority order was assumed to exist among the variables under investigation.
3. The causal priority was based on the researcher's interpretation of previous research related to the variables in the model under study. The order of the variables, then, was based on what the researcher believed to be valid theoretical information (Heise, 1969). The causal priority of this model was indicated by the position of a variable relative to the other variables in the causal chain.
4. The residuals of the endogenous variables were assumed to be uncorrelated with the exogenous variables. This assumption implies that any other causes of the endogenous variables are uncorrelated with the exogenous variables.

Delimitations

This study was confined to the faculty of eight two-year colleges whose presidents granted permission for the study to be conducted.

Limitations

1. The ex post facto design of the study and the fact that the survey was administered only once excluded the advantages inherent in experimental designs in their ability to control extraneous variables and to manipulate independent variables.

2. The results of the study were interpreted within the limitations imposed by the validity and reliability of the survey instrument used in the investigation and the decisions made concerning which items to include in the constructed scale scores for each variable.

3. The assumptions that causal analysis requires in terms of causal priority were not adequately tested because the survey was administered only once. Ideally, the variables should be measured more than once. Through repeated measures, the true causal time order would emerge.

4. The testing of all hypotheses relied on self-report data. Systematic error caused by method bias may, therefore, have affected any relationships that have been confirmed. Hackman and Lawler (1971) argued, however, that self-reports of job characteristics were more appropriate than ratings from other sources, since "employees' perceptions of their jobs (rather than objective job characteristics) are causal in affecting the reactions of employees to their work" (p. 269).

5. The generalizability of the findings was limited because the subjects were not randomly selected from the total population of two-year college instructors. Rather, they were randomly selected from within the population of faculty in the two-year colleges whose president's granted permission for the study to be conducted. Further empirical study must determine the extent to which the findings would be applicable in other two-year colleges.

Significance of the Study

The study of the process of career development and growth for instructors is significant because the growth of faculty is considered important to maintaining institutional vitality. Also, it is an important area of study because little is known about the factors that actually influence faculty growth or the influence of growth on the work experiences of faculty.

The growth and development of faculty, while not described in terms of a process of career development, has been recognized as the key both to maintaining institutional vitality and for providing professional and personal development opportunities for faculty. In Toward Faculty Renewal, Gaff (1975) discussed the dilemma facing institutions of higher education:

It is becoming apparent that in the years ahead colleges and universities will have to rely on their current faculty members to provide fresh perspectives, infuse new ideas, and give leadership to innovative programs if they are to maintain vigorous educational climates. Faced with the prospects of reduced student enrollments and declining faculty positions, many of them are unable to add young faculty to the staff. This young blood has always been an important stimulus to institutional renewal; but now some substitute for it will have to be devised (pp. 1-2).

Gaff (1975) also discussed the effect a tight job market has on the faculty members themselves and their own need for renewal:

As job opportunities decline, faculty members increasingly will be confined to one institution, and they will look to that school to provide the enriching experiences they need to grow professionally. But what can faculty members expect their schools to do to cultivate their professional growth, assist them to find challenges in their work, particularly their teaching, and help them derive satisfaction from this central professional activity (p. 2)?

Gaff's answer, of course, to the institutions' and the faculty's problems created by declining resources was campus-wide programs of faculty and administrator development for instructional improvement. He saw such programs as having "the potential for renewing the lives and work of individuals and the functioning of educational organizations" (Gaff, 1975, p. 13). The purpose for such programs of faculty development was "enhancing the talents, expanding the interests, improving the competence, and otherwise facilitating the professional and personal growth of faculty members, particularly in their roles as instructors" (Gaff, 1975, p. 14).

Kozell and Moore (1979) also recognized the utility of staff development programs to maintain the performance and motivation of community college instructors. They voiced concern, however, for continuing support to encourage professional growth through these staff development programs in view of the scarcity of funds. They called for re-evaluation of current staff development programs so that informed decisions "about the most effective methods of promoting both individual professional growth and institutional development" (Kozell & Moore, 1979, p. 18) could be made.

According to Cohen and Brawer (1977), "faculty development is not a high priority in the community college" (p. 73). They further characterized current efforts at faculty development as "uncoordinated experiences" which lacked "a consistently held perception of what the mature instructor should do and be" (Cohen & Brawer, 1977, p. 73). While raising the issue of the uncertainty of a description of faculty growth, Cohen (1973) also addressed the need for a work environment that provided opportunities for the community college instructor's professional growth:

We could better describe faculty growth if we had a comprehensive theory of adult development, but for now we are forced to use such words as "integrated," "actualized," "self-assured," and "mature." These refer to idealized states of human development, and although we are not quite sure how to bring them about, we know that the person's work environment affects his movement toward these ideal forms of identity (pp. 107-108).

The work environment of faculty may be affected by current economic constraints in education. Concern about the impact of these conditions on faculty and ultimately upon the long-range survival of higher education was voiced by Bucher (1981).

Faculty members may be skilled, professional, well grounded, and lively. They are also people whose creative work requires a supportive and reliable context. The present threats to that context that are adversely affecting the role, task, and welfare of the faculty must now be identified and addressed in a comprehensive, far-reaching creative way. Otherwise the most important "capital" in higher education is in serious danger (p. 21).

Hall (1971) has proposed a model of the process of career development which could advance understanding of the conditions which facilitate faculty growth. Not only has he described the career experiences that occur when individuals achieve psychological success

in their work, but Hall specified in his model the job characteristics which he felt must be present in an individual's work situation so that the feeling of psychological success would be attained.

In light of the expressed need to study the process of faculty growth and considering the importance of faculty growth to the sustenance of institutional vitality, the application of Hall's model of psychological success to the work experiences of community college faculty was appropriate. This study described, through a path model, the process of the career development for two-year college instructors as a function of the relationships among certain demographic variables, job characteristics, and faculty career experiences.

Definition of Terms

The following terms were defined in relation to their use in this study.

Two-year college. A postsecondary educational institution which offers courses and/or programs confined to the first two years of post high school education. These programs may be any or all of the following: college transfer, vocational/technical education, community education, and/or adult continuing education. For the purposes of this study, the terms "two-year college" and "community college" were used interchangeably.

Faculty member. An instructor responsible for a full load of teaching at a two-year college. "Full load" was the number of contact hours the two-year college designated it to be.

Career development. Cycles of challenging goal setting, independent effort, success, career growth, and increased career self-esteem and involvement leading, in turn, to further goal setting.

Career growth. "Personal development, the actual creation of new aspects of the self, in the career area" (Hall, 1971, p. 59).

Work challenge. A variable related to the conditions necessary for psychological success that described the opportunity to have work that was meaningful and challenging.

Supportive autonomy. A variable related to the conditions necessary for psychological success that reflects the freedom to establish goals and the means for achieving them and the willingness of the supervisor and the instructor's colleagues to support the individual's attainment of goals.

Feedback. A variable that described the opportunity for a faculty member to receive information concerning goal attainment and achievement of work goals, to receive information for improving performance, to receive information for evaluating performance, and to receive recognition for good performance.

Psychological success. A variable used to describe a faculty member's sense of personal success upon attainment of some challenging, personally meaningful goal that has been achieved through an individual's own efforts.

Self-image. An outcome measure of psychological success that describes the instructor's general image of himself as he relates to his work environment. In this study, the terms self-image, self-esteem, and self-identity are used interchangeably.

Work satisfaction. An outcome measure of psychological success used to measure the faculty member's satisfaction with work.

Job involvement. An outcome measure of psychological success that describes the degree to which work is an important part of an instructor's life; commitment to the job.

Organization of the Dissertation

The dissertation is divided into five sections: introduction, review of the research and literature, methodology, findings, and summary, conclusions, implications, and recommendations.

This first chapter provided a statement of the problem, the significance of the study, and an overview of the procedures to be followed in the study. Chapter Two discusses the theoretical model on which the study is based and research and literature that is pertinent to the investigation. Chapter Three contains the procedures used to formulate the survey instrument, the pilot study, and the validity procedures, along with the complete methodology used in the study. The findings and analysis of data are presented in the Chapter Four. Chapter Five includes a summary of the findings and the conclusions drawn as a result of the study, as well as implications for practice and further research.

CHAPTER TWO
REVIEW OF THE LITERATURE AND RELATED RESEARCH

Introduction

This chapter is a review of research concerning the interrelationships among demographic characteristics, job characteristics, and worker attitudes as they relate to organizational behavior. Many studies have been conducted in these areas; and, consequently, to cite them all here would be prohibitive. Therefore, this review is selective and illustrates those studies relevant to the variables in the model under investigation. Also reviewed is the research and literature concerning faculty in higher education in general, and in community colleges specifically, relating to the variables in the study.

The first section is focused on the theoretical basis of Douglas T. Hall's Career Development Model and provides an explanation of its components. The second section covers the literature and research concerning the nature of work and its influence on individuals. The third section presents (1) a review of the rationale of causal modeling and path analysis, (2) studies that tested portions of Hall's Career Development Model using the statistical technique of path analysis, and (3) applications of causal modeling and path analysis in education. The chapter is concluded with a summary.

Theoretical Basis of Career Development Model

Competence and Self-Esteem

Hall's conceptualization of the career development model relied heavily on the works of Lewin (1936), White (1959), and Argyris (1960). Hall believed that individuals are strongly motivated by experiencing competence and growth in competence in their work (Hall, 1971). He believed, as did White (1959), that development of this feeling of competence through one's work is an important means of achieving a high level of self-esteem (White, 1959). Furthermore, it was postulated, individuals would experience an increased level of self-esteem when they come to see that they can act effectively upon their environment (Argyris, 1960; Hall, 1971; White, 1959).

Kurt Lewin (1936) developed the theory of psychological success and how it could lead to a feeling of increased competence and, therefore, increased self-esteem. Psychological success has been defined as a feeling of "personal effectiveness in a task situation" (Hall, 1971, p. 61). Lewin (1936) found that if people (a) participated in setting goals that represented a challenging but not overwhelming level of aspiration, and (b) if they also worked out their own means of attaining those goals, they experienced a highly satisfying state of psychological success upon attainment of those goals. This experience of success led to an increased sense of self-esteem, and a desire to accomplish more.

Career Subidentity Growth

Hall (1971) applied Lewin's theory to the process of career subidentity growth. According to Hall, a person's identity is made up of several subidentities which represent the various aspects of the person that are engaged when that person is behaving in different roles. Career subidentity is that aspect of the person's identity which become engaged when working in a given career area. Hall rationalized that as more competencies and characteristics relevant to one's career are acquired, one's career subidentity grows. He called this subidentity extension "career growth." He saw career growth involving personal development or creating new dimensions of one's career subidentity. Following this reasoning, as the career subidentity expand, proportionately more of the total identity is invested in the career role as one becomes more ego-involved in one's career. As a result of career subidentity growth, a spiraling cycle of events begins. Hall believed that satisfaction with one's work increases involvement in that area of work, and the individual will then choose to do more work in that area. "Career development" was the term Hall used to describe this spiraling cycle (Hall, 1971). According to Hall (1976), career growth and development occur when a person experiences psychological success in a career-relevant task.

Conditions for Psychological Success

From Lewin's work and from his own work on careers, Hall (1971) set forth five conditions for experiencing psychological success in one's work:

1. Challenging work goals,
2. Personally valued work goals,
3. Independent setting of work goals,
4. Determining one's own means of attaining work goals, and
5. Actual attainment of work goals (p. 67).

Hall further described the specific characteristics of the work climate that provide opportunities for experiencing these five conditions of psychological success (Hall & Schneider, 1973). In order for individuals to be able to set challenging work objectives, they need to be in an assignment that is either (1) inherently difficult, and will thus demand the setting of challenging goals, or (2) capable of being made difficult by the individual. In addition to being challenging, an individual's work goals must be personally valued or central to one's identity, according to Hall. In other words, he specified that one characteristic that must exist in one's work climate for a person to be able to set challenging work goals and for those goals to be personally valued is that the individual must perceive work as challenging and meaningful.

If a job is to facilitate the condition of psychological success that individuals participate in the setting of their own work goals, Hall proposed that an individual's work climate must provide a high degree of autonomy. Individuals must not only be free to determine how best to reach their goals but must be free to choose the goals themselves. In addition to autonomy, another important factor in the work climate for finding effective means for goal attainment is the level of support and coaching provided by a superior and/or colleagues.

If the individual could receive consultation from a supervisor without feeling bound or controlled by the supervisor's ideas, that person then has available a wider source of possible solutions to the work problems. Hall suggested, therefore, that another essential characteristic of the work climate would be the degree of supportive autonomy present in the climate (Hall & Schneider, 1973).

The final condition necessary for experiencing psychological success in one's work is the actual attainment of goals. Hall postulated that the most important characteristics are feedback and recognition. Hall asserted that feedback about one's performance is important to let the individual know that that person has indeed attained the goal. Further, Hall stated that recognition from superiors, colleagues, subordinates, and clients helps to provide rewards for success and helps to confirm the new level of personal competence demonstrated by that success (Hall & Schneider, 1973).

In his model of career development through psychological success, Hall specified the particular job characteristics most likely to provide the conditions for psychological success and then traced out the effects of the work climate characteristics--work challenge and meaning, supportive autonomy, and feedback and recognition--on work attitudes (see Figure 2). In order to be able to work on difficult goals and goals that are central to the person's self-concept, the job must be considered challenging and personally meaningful. Supportive autonomy is needed in one's work climate to allow the person to put forth the effort to set work goals and to work independently to attain them while receiving some degree of support and help from a

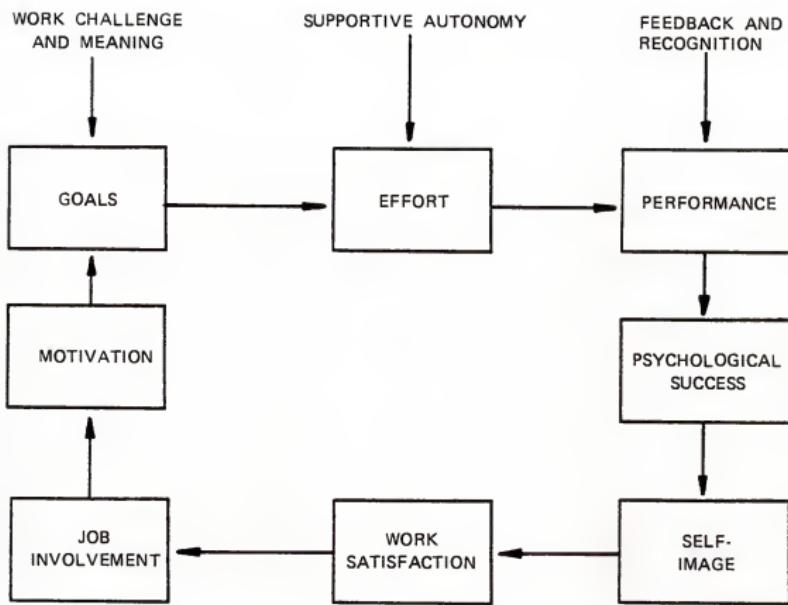


FIGURE 2. HALL'S MODEL OF THE PROCESS OF CAREER DEVELOPMENT.

supervisor and colleagues. Feedback and recognition about one's attainment of goals or performance is considered an important work climate characteristic for it helps the individual evaluate and improve performance plus provides recognition of goal attainment (Hall, 1976).

If the conditions for experiencing psychological success are achieved, that is, if individuals set challenging goals for themselves that are related to their careers, and if they work independently and attain their goals, according to Hall's model, they should experience a sense of psychological success. Hall believed this success in achieving some new level of competence would lead to increased self-image in this area of work. Increased self-image would generalize by association to a sense of satisfaction with work in that task area, thus, increasing the individual's job involvement. Because of this increased involvement, individuals may be more likely than before to set additional goals for themselves in this area. This cycle of events can be self-reinforcing and continuing, thereby increasing the likelihood that the individual will attempt future challenging goals (Hall, 1971).

Individuals and Work

How people are affected by their jobs has been given considerable attention in the literature on organizational behavior. In this section, research and theory concerning the nature of work and certain personal variables are examined to study how they affect employee attitudes.

Internal Work Motivation

The degree to which an individual experiences positive internal feelings when performing effectively on the job has been referred to as internal work motivation (Oldham, 1976). The concept of internal work motivation has been considered important in organizational behavior literature because of its implications for increasing an employee's work performance--if an individual receives many personally valued rewards through experiencing high internal motivation, then, the theorists hold, that individual should perform at high levels (Oldham, 1976).

Hackman and Lawler (1971) identified three general characteristics which they feel must be present in a job in order to establish the necessary conditions for internal work motivation. According to Hackman and Lawler (1971), a job must

- (a) allow workers to feel personally responsible for an identifiable and meaningful portion of the work, (b) provide work outcomes which are intrinsically meaningful or otherwise experienced as worthwhile, and (c) provide feedback about performance effectiveness (Hackman & Lawler, 1971, p. 263).

Job Characteristics Model

Based on Hackman and Lawler (1971), Hackman and Oldham (1975) presented the Job Characteristics Model. This model was an attempt to conceptualize more specifically the characteristics and outcomes of highly motivating jobs. This model postulated that positive personal and work outcomes (high internal motivation, high work satisfaction, high quality performance, and low absenteeism and turnover) would be obtained when three critical psychological states--

experienced meaningfulness of work, experienced responsibility for the outcomes of the work, and knowledge of the results of the work activities--were present for a given employee.

Hackman and Oldham viewed these three psychological states as the causal core of their model. "Experienced meaningfulness of the work" was noted by Hackman and Oldham as a necessary condition for motivating work so that individuals can experience positive feelings about themselves as a result of their efforts. According to Hackman and Oldham, the specific, measurable job characteristics that contribute to experiencing meaningful jobs are "skill variety," "task identity," and "task significance." "Skill variety" indicates the degree to which the job requires employees to carry out a wide range of activities in their work. "Task identity" refers to the extent to which employees complete a "whole" piece of work and could clearly identify the results of their efforts. "Task significance" measures the degree to which the job makes a substantial impact on the lives or work of other people (Hackman & Oldham, 1975).

Hackman and Oldham postulated that "experienced responsibility for the outcomes of work" is a necessary condition because it results in a feeling of personal success and a gain in self-image. They further specified that "autonomy" is the job characteristic that can enhance these feelings of personal responsibility for work outcomes. They concluded that "autonomy" indicates the extent to which a job provides substantial freedom, independence, and discretion to the individual in scheduling work and determining the procedures used to carry out the work (Hackman & Oldham, 1975).

Hackman and Oldham presented "knowledge of results" as a condition for enhancing internal work motivation because this condition enables individuals to experience higher order need satisfaction when they perform effectively. "Feedback," then, is the specific job characteristic that fosters knowledge of results in Hackman and Oldham's model. Feedback indicates the extent to which employees received information as they are working which reveals how well they are performing on their job (Hackman & Oldham, 1975).

The Job Characteristics Model also proposed that "growth need strength" moderates the predicted relationships among job characteristics, employee attitudes, and behavior at work. They hypothesized that individuals who have a high need for personal growth and development at work respond more positively to enriched work than people with low growth need strength (Hackman & Oldham, 1975). Studies by Brief and Aldag (1975), Hackman and Oldham (1975), Oldham (1976), and Oldham, Hackman, and Pearce (1976) tested the predicted relationships of the Job Characteristics Model using multiple regression analysis. The results of these studies provided generally strong support for the validity of the Job Characteristics Model.

Comparison of Job Characteristics Model with Career Development Model

Hall's Career Development Model and the Job Characteristics Model have several variables in common. Both models specified conditions in the work setting for achievement of psychological success (Hall, 1971) or for the enhancement of the development of internal motivation (Hackman & Lawler, 1971). The models similarly specified

the characteristics of the job that would bring about their respective conditions. The particular conditions and characteristics are somewhat different, however, perhaps because the Job Characteristics Model was developed for assessing lower level skill jobs (Hackman & Lawler, 1971), whereas Hall's Career Development Model dealt with more complex jobs. Hall's model emphasized the need for support from supervisors and colleagues and autonomy, in not only setting the means to achieve one's goals but also in determining the goals themselves. Hall's Career Development Model also attempted to specify the relationships between all variables in the model whereas the Job Characteristics Model only established the relationships between sets of variables.

Job Characteristics

Work challenge. Studies have shown that work challenge is important to the way an individual's career develops. Hall and Lawler (1969) hypothesized that job challenge is positively related with higher-order need satisfaction (esteem, autonomy, and self-fulfillment and growth). Job challenge in this study involving 22 research laboratories and 291 professionals was positively related to esteem ($r=.72$, $p < .01$), autonomy ($r=.78$, $p < .01$), and self-fulfillment ($r=.83$, $p < .01$). Berlew and Hall (1966) found that the amount of job challenge in the first assignments of young managers was positively related to success and performance six and seven years later.

Autonomy. Autonomy in determining means to accomplish one's work goals has been an important variable in the study of blue-collar jobs which have been redesigned to increase employee internal motivation (Hackman & Lawler, 1971). Measures of autonomy have also been used

in investigations of the conflict of professionals in bureaucratic organizations. Scott (1966) identified the professional's resistance to or rejection of bureaucratic standards and resistance to bureaucratic supervision as indications of the role conflict of professionals in organizations. R. H. Hall (1968), in an analysis of structural and attitudinal aspects of professionals and their organizational settings, found a strong inverse relationship between professional autonomy and such bureaucratic dimensions as hierarchy of authority, division of labor, and rules and procedures. Kerr, Von Glinow, and Schriesheim (1977) and Wilensky (1964) found that motivational strategies involving professionals assumed the presence of a high need for autonomy, and thus professionals were expected to work with a minimum of direction and to achieve assigned goals on target.

The specific variable supportive autonomy was used by Hall and Schneider (1973) and was based, in part, on leadership training research (Blake & Mouton, 1964) that revealed the need for an affiliation dimension in studies of work climate. Hall and Schneider also justified their use of this combined dimension as a characteristic of work climate because it contained elements of Campbell, Dunnette, Lawler, and Weick's (1970) individual autonomy and consideration dimension. Hall and Schneider (1973) saw supportive autonomy as reflecting more the degree of collaborative, mutual authority in a superior-subordinate relationship than the complete independence of the subordinate. McGregor's (1960) concept of mutual goal-setting by the individual and his supervisor paralleled somewhat Hall's notion

of supportive autonomy. Mutual goal-setting was a strategy designed to provide support and coaching by the supervisor for the individual yet respect for subordinate self-direction.

Work Environment for Faculty. While not studied in exactly the same terms as Hall's model of career development, the work climate or environment for higher education faculty has been considered.

According to O'Banion (1972), the professional development of the faculty was best achieved "when the climate of learning for the staff is open, flexible, affirming, challenging . . ." (p. 104). O'Banion also felt that the faculty and the college could determine whether progress towards goals was being made if staff development programs were integrated with faculty evaluation processes. He described the impact of such a program:

The aim is to develop a program that is so integrated into the fabric of the college that staff accept as normal the opportunity to plan goals and carry out activities that help them improve their teaching, administering and counseling. When the rewards are clear, and opportunities are provided, staff members will choose to be innovative and creative. When staff members begin to grow and develop, the college will move toward increased potency and impact (p. 104).

Baldridge, Curtis, Ecker, and Riley (1978) conducted a national study to determine the major developments in higher education management and governance. They included in their nationwide sample of institutions of higher education 64 community colleges which they considered a representative sample of two-year institutions. The institutions were stratified according to size, and proportionate numbers of faculty were drawn from each college. Five administrators were included from each college. Their study indicated some findings that were relevant to the work environment of community college instructors.

In general, investigation into the involvement of community college faculty in the decision-making process revealed that

Faculty participation in governance is low--the lowest of any institutional group. There is an apathetic atmosphere, with only marginal participation by the faculty in the decision-making process. The levels of inactivity recorded in our survey were the very highest in these institutions. Faculty senates in these institutions are either nonexistent or extremely weak (p. 94).

Given these general findings of Baldridge et al. (1978), the faculty of community colleges in their study appeared not to have the working conditions necessary to facilitate achievement of psychological success.

Evaluation, whether formal or informal, is a means of receiving feedback concerning one's performance. Based on a study of the formal faculty evaluation procedures in three community colleges, Jordan (1975) recommended the development of sound evaluation programs that not only improves instruction but that allows for faculty-initiated growth and development. He further recommended that administrations establish an environment that promotes critical self-analysis.

One community college faculty committee recognized the contradiction of purposes in providing feedback for professional growth and providing feedback which is to be used to make decisions on retention and promotion (Preliminary Report, 1974).

A program for improving instruction calls for diagnostic and supportive evaluative systems which will assist the instructor in improving his/her classroom performance; the results of such diagnostic evaluations are ordinarily private, used only by the teacher interested in assessing weaknesses and strengths. An evaluation system designed for salary determinations will not serve diagnostic purposes, since all teachers will have a strong incentive to emphasize their strengths and hide their weaknesses (p. 3).

The committee, therefore, recommended two sets of evaluations-- diagnostic and promotional. They suggested that the most important kind of growth for any teacher would be improvement in classroom effectiveness. The results of diagnostic evaluation would be used for self-improvement only. In addition to diagnostic evaluations, they suggested such activities as discipline meetings, methods seminars, and professional seminars as ways to promote professional growth.

Like Hall's model, this group perceived growth occurring as a result of feedback about one's performance.

Need for Growth

Participative management theorists, such as Argyris (1964) and McGregor (1960), felt that the decline or absence of individual job involvement was a result of the blocking of the gratification of growth needs by the organizational structure. Argyris (1964) argued that it is normal for individuals, as they mature, to develop needs for independence, more complex behavior, deeper interests, and awareness of self. He felt that not only does the organization not recognize this need for development, but it retards growth by applying controls, demanding passivity, and requiring only low level abilities. Argyris concluded if an individual was to meet the demands of an organization, he must, in effect, consent to regress rather than mature (Argyris, 1964).

What happens to individuals when they are not allowed to develop into fully functioning persons? Argyris described the effects on individuals when their work settings do not satisfy their need for growth:

- (a) They leave the situation (absenteeism and turnover).
- (b) They climb the organization ladder.
- (c) They become defensive (daydream, become aggressive, nurture grievances, regress, project, feel a low sense of self-worth).
- (d) They become apathetic, disinterested, non-ego involved in the organization and its formal goals.
- (e) They create informal groups to sanction the defense reactions in (c) and (d).
- (f) They formalize the informal groups in the form of the trade unions.
- (g) They de-emphasize in their own minds the importance of self-growth and creativity, and emphasize the importance of money and other material rewards.
- (h) They accept the above described ways of behaving as being proper for their lives outside organizations (Argyris, 1964).

These "coping strategies" of individuals may lead management to respond by increasing the informal controls over individuals in the hope of increasing their efforts and performance (Argyris, 1964).

"These responses [by management] may produce short-term benefits but they do eventually tend to increase rather than decrease the employee's failure-oriented coping behavior, to which management responds again with further controls, and a downward cycle is created" (Hall & Schneider, 1973, p. 5).

Sikes, Schlesinger, and Seashore (1974) cited Lewin's (1936) conditions for psychological success as the theoretical basis for their team approach for bringing about change in institutions of higher education (p. 33). They saw the project team approach as a means of providing people in colleges with the opportunity to define their own goals and to define their own paths to attain these goals.

Sikes et al. (1974) further contended that colleges and universities were bureaucracies, and as a result, faculty would counter the failure of the institution to satisfy their needs for growth by developing Argyris' (1964) coping strategies--rebellion, withdrawal, emotional distress.

Cohen and Brawer (1977) conducted a national study of humanities faculty in community colleges. They recognized the importance of faculty growth and used a measure built on the constructs of development, maturity, and ego strength to assess the movement of faculty toward "functional potential." Functional potential was "expressed in the degree to which a person was able to tolerate ambiguity, delay gratification, exhibit adaptive flexibility, demonstrate goal directedness, relate to self and others, and have a clear sense of personal identity" (p. 33). It was measured by collapsing certain items on their survey instrument that represented six fundamental characteristics. Relatedness/aloofness indicated the degree to which individuals involve themselves with others or, at the other end of the continuum, their feelings of alienation. Identity/amorphism described one's feelings of directedness or, at the other extreme, uncertainty of direction. Flexibility/rigidity assessed the openness or closedness of an individual's belief systems. Independence/dependence measured the readiness to act on one's own. Progression/regression involved one's orientation toward movement and change. Delay of gratification/ impulse expression was related to one's ability to exercise control when appropriate. Statements such as "Teaching effectiveness should be the primary basis for faculty promotion" and "I believe that if I work hard,

things will work out for me" were used on their survey to assess the amount of functional potential the respondent possessed.

In the research of Cohen and Brawer, the scores for each aspect of functional potential were added together and then the person was assigned a high, medium, or low "functional potential" status. The data from their survey of community college humanities faculty (Cohen & Brawer, 1977) suggested the following trends:

1. The faculty with low "functional potential" tended to stay in two-year colleges longer and those with high functional potential tended to become chairpersons.
2. People with high "functional potential" tended also to see the people in their environment as important and consequently sought their advice when needed.
3. The high functional group tended to read more scholarly and professional journals, and they were more likely to be members of professional associations.
4. The high functional group tended to want further professional development than the low group.
5. Functional potential correlated significantly with all the other constructs measured in the Faculty Survey--research orientation, curriculum and instruction, university as a reference group, preference for further preparation, concern for students, and concern with the humanities--except for satisfaction (pp. 35-38).

Cohen and Brawer discussed the need for the "high functional group" to be given the chance to assume responsibility and to take on challenging tasks. Cohen and Brawer warned that if faculty in this high group were not given challenging tasks these faculty might leave teaching (1977).

Both Sikes et al. (1974) and Cohen and Brawer (1977) in the research reviewed here emphasized the need for faculty to experience growth through their jobs. This supported Hall's model of the process of career development.

Self-Image

Definition. Coopersmith (1967), as cited by Tharenou (1979), defined self-esteem (self-image) as

the evaluation which the individual makes and customarily maintains with regard to the self: It expresses an attitude of approval or disapproval, and indicates the extent to which the individual believes the self to be capable, significant, successful and worthy (pp. 4-5).

Relationship between work climate characteristics and self-image level. Jobs that provided autonomy, challenge and skill, role clarity, and lack of overload have been shown to be positively associated with global and work specific self-esteem (Kohn & Schooler, 1973; Hackman & Lawler, 1971; Argyris, 1960).

Likert (1961) found that increased self-image was facilitated by a "considerate" leadership dimension. Investigations by Hackman and Lawler (1971) and Beehr (1976) revealed positive correlations between supervisory support and work role self-esteem. Thompson (1971) showed that persons with low self-esteem were satisfied with supervision that was supportive or traditional but not supportive, whereas those with high global esteem were satisfied only with supportive supervision.

The evaluations provided by an employee's co-workers and supervisor might affect self-esteem. French (1969) showed that the individuals' ratings of their worth as workers, co-workers' ratings of this worth, and the individuals' estimates of self-worth were closely associated.

French (1963) found that managers perceived the annual appraisal system as threatening to self-esteem. Likert (1961) proposed that supportive relationships within a work unit contributes to the individual's sense of personal worth and importance because action by others communicates respect and recognition.

Relationship between worker attitudes and self-image level. In studies by Dore and Meacham (1973) and Thompson (1971), self-esteem was positively associated with job satisfaction. Dipboye, Zultowski, Dewhirst, and Arvey (1978) obtained non-significant correlations, however, between job satisfaction and self-esteem for both blue- and white-collar workers. Job involvement has been found to be positively correlated with work role self-esteem for blue- and white-collar workers (Hackman & Lawler, 1971; Vroom, 1962).

Job Satisfaction

Definition. Smith, Kendall, and Hulin (1969) have defined job satisfaction as the difference between what is expected and "what is experienced, in relation to the alternatives available in a given situation" (p. 6).

Dimensions of job satisfaction. Job satisfaction has received considerable attention in the organizational literature (Mitchell, 1979). A major area of investigation in this research has been the dimensions of job satisfaction (Locke, 1975). Herzberg, Mausner, and Synderman (1959) presented one model of job satisfaction, the two-factor theory. Herzberg et al. contended that certain variables in the work situation lead to overall job satisfaction but not to dissatisfaction. These variables are called motivators and include such variables as

achievement, recognition, advancement, responsibility, and the work itself. Other variables, called hygienes, lead to overall job dissatisfaction but not to satisfaction. This factor includes such variables as organizational policy and administration, supervision, salary, working conditions, and interpersonal relations. The two-factor theory received considerable criticism, however, for being method bound (Ewen, Smith, Hulin, & Locke, 1966; Locke, 1975). These criticisms centered around the general finding that only when Herzberg's basic methodology, critical incident interviews, was used, did the theory receive consistent support. The critics called for the two-factor theory to "be laid to rest with a minimum of fanfare" (Hulin & Smith, 1967, p. 401).

Smith et al. (1969) believed that there were five components of job satisfaction--the work itself, the supervision, the co-workers, the pay, and promotion opportunities. While other aspects of the job might be considered important, Smith et al. contended these five aspects appeared most consistently in studies designed to identify the underlying dimensions of job satisfaction.

Smith et al. gave considerable attention to the development of an instrument to measure these five aspects of job satisfaction--the Job Descriptive Index (JDI). These scales have been shown to have high reliability, as well as discriminant and convergent validity with interviews and other rating methods. Other desirable characteristics of the JDI have been described as (1) freedom from response set and (2) low intercorrelations among the five scales (Smith et al., 1969). Quinn and Kahn (1967) commented that the careful attention to

psychometric detail in the development of the JDI was "unrivalled in the history of instrument development in organizational psychology" (p. 456). As a result of the high validity and reliability of the instrument, it has been used often as a measure of employee satisfaction with various facets of one's work.

Causes of job satisfaction. Berger and Cummings (1978), James and Jones (1976), Locke (1976), and Mitchell (1979) provided very thorough reviews of the recent job satisfaction literature. Locke (1976) reviewed the historical development of job satisfaction, its major theoretical orientations, and both the causes and consequences of satisfaction. He reported that the literature suggested that satisfaction was caused by challenging jobs (including high autonomy, stimulation, responsibility, and variety), high and equitable pay, good opportunities for promotion, and good work conditions.

Consequences of job satisfaction. Locke's review (1976) included a comprehensive treatment of the consequences of job satisfaction. He reported, in general, satisfied people were more satisfied with their lives, have better physical and mental health, and tended to be on the job more frequently and leave the organization less frequently than those who were dissatisfied. Dubin and Champoux (1977), Kavanagh and Halpern (1977), and London, Grandall, and Seals (1977) reported that job satisfaction was related to general life satisfaction and the degree to which one's job was important in one's life (job involvement).

Job satisfaction of faculty. The job satisfaction of community college instructors has been considered an important area of

investigation because instructors who find satisfaction in their jobs should theoretically create a better learning environment for their students than those instructors who are not satisfied. Most investigations have been limited to comparisons between faculty satisfaction and demographic variables. The usefulness of these studies was limited because the measures of satisfaction were so varied, and validity and reliability estimates were not always given.

Authors of several major studies have reported that community college faculty were generally satisfied with their jobs (Benoit, 1978; Cohen & Brawer, 1977; Eckert & Williams, 1971; Garrison, 1967; Mills, 1968). These same studies revealed faculty discontent with certain aspects of their working conditions.

In 1968 and again in 1978, investigators surveyed the full-time community college faculty in Florida regarding their perceptions of various aspects of their work. Mills (1968) received 2,641 usable responses, which represented 78.2 percent of the population surveyed, and Benoit (1978) surveyed a stratified random sampling of 1,575 full-time certificated faculty. Usable responses were received from 1,116 faculty in Florida's community colleges, which represented a 71 percent response rate. Both researchers questioned the faculty on their satisfactions and dissatisfactions with the nature of community college work and their satisfactions and dissatisfactions with the working conditions in community colleges. In both studies the major areas of satisfaction with the nature of community college work were the enjoyment of teaching, helping young people grow, and association with college-age students. In 1968 and 1978 the choice "none" received

the highest percentage response to the question asking for reasons for dissatisfaction with the nature of community college work.

The responses to items concerning satisfaction with working conditions in a community college were similar in both studies. In Benoit (1978), the rank order of the top five satisfaction items was freedom and independence in work, desirable environment, fine colleagues, intellectually stimulating associates, and well-motivated students. The rank orderings reported by Mills (1968) were freedom and independence in work, fine colleagues, desirable environment, intellectually stimulating associates, and well motivated students. The rank ordering of the dissatisfaction with working conditions items was slightly different in the two studies. For the 1978 group, the ranking was administrative procedures, pay, and none (Benoit, 1978). In 1968 the ranking was none, administrative procedures, and pay (Mills, 1968).

Baldridge et al. (1978), in the study discussed earlier in this chapter, defined morale in terms of a number of attitudes--trust, satisfaction, institutional identification, and militancy. According to the findings, the faculty in the community colleges in this study considered themselves mere employees. Furthermore, the lack of influence and power of the instructors in this national study reflected in their low trust of administration and low level of satisfaction.

Cohen and Brawer (1977) surveyed 1,493 humanities faculty in 156 two-year colleges. These faculty were satisfied with certain work conditions: autonomy (79.6 percent); freedom to choose textbooks, programs, and media in their area (85.3 percent); opportunities to be creative (75.1 percent); and the working environment in general (73.3 percent).

Wozniak (1973) studied the job satisfaction of 138 full-time music instructors in 64 two-year institutions. The sources of satisfaction for this sample of music faculty were the following: achievement, work itself, recognition, responsibility, and interpersonal relations with their students. Dissatisfaction was generated from sources such as policy and administration, effect of the job on personal life, working conditions, supervision, achievement, and recognition.

Eckert and Williams (1971) studied the community college faculty of Minnesota. Based on the results of 441 returned questionnaires, which represented 80 percent of the population surveyed, 82 percent of the instructors responded that they would remain in community college teaching if given the chance. The comments concerning their dissatisfaction with their jobs concerned complaints about their working conditions--inadequate facilities, administrative red tape, excessive working hours, and heavy work loads. Sixty-two percent of the respondents even viewed collective bargaining as a "desirable" or "highly desirable" alternative to alleviating their work-related problems.

Garrison (1967) interviewed 700 faculty from 20 community colleges of varying size, organization, and location. Garrison reported no statistical data but implied that the primary sources of faculty job satisfaction were derived from teaching and interacting with students. In the area of dissatisfaction, Garrison found the most widely mentioned problem by the instructors to be lack of time to adequately perform their jobs.

Few strong conclusions can be drawn from these studies as a whole because the measures of job satisfaction were so varied. However, they did have elements in common with Hall's career development model. Job satisfaction for faculty was related to work conditions, autonomy in one's job, relationships with colleagues and administration, and opportunities for growth.

Two studies have been conducted which attempted to determine the relationship between morale of instructors in two-year colleges and teaching effectiveness as perceived by students (Cooper, 1977; Thornton, 1977). While both studies used the Purdue Teacher Opinionnaire as the measure of teacher morale, they used different ratings of teaching effectiveness. Both studies found that the instructors' perception of satisfaction with teaching and their overall job satisfaction were significantly related to their teaching effectiveness as perceived by students. Cooper (1977) found a significant negative relationship between instructors' perceptions of community support of education and students' perception of teaching effectiveness. Thornton (1977) found significant correlations between two other dimensions of satisfaction as measured by the Purdue Teacher Opinionnaire--teacher rapport with immediate supervisor and perception of school facilities and services--and the teaching effectiveness rating.

These studies suggested a relationship between performance and job satisfaction. They did not take into consideration other variables that might have influenced this relationship as does Hall's model of the process of career development.

Harris (1978) administered the Purdue Teacher Opinionnaire and an instrument developed to measure administrative climate to 108 randomly selected full-time instructors at six community colleges. Based on the significant correlations between instructor morale scores and administrative climate scores, he concluded that school leaders can significantly affect instructor morale by the type of climate they create. Hall's (1976) model of the process of career development also posits that work climate was important indirectly to work satisfaction.

Swain (1976) reported the results of an organizational development program which used Management by Objectives and Results (MBO/R). An instrument based on Herzberg's list of job satisfiers and dissatisfiers was given to faculty prior to implementation of the program and on two subsequent occasions. Five factors were described as motivators or causes of satisfaction--achievement, recognition, the work itself, responsibility, and possibility of growth. Five hygiene factors or causes of dissatisfaction were likewise described--organizational policy and administration, supervision, salary, working conditions, and interpersonal relations. A chi square analysis was conducted to determine whether significant differences existed among the factors across the three testing periods. Overall, faculty showed increased levels of job satisfaction in two motivator factors--job responsibilities and growth opportunities--and in one hygiene factor--supervision. Swain concluded any increases in effectiveness, efficiency, or organizational quality which resulted from the implementation of the MBO/R system were not achieved at the expense of decreased faculty

satisfaction. Such an interpretation of the findings was limited, however, by the small number of faculty (N=13) participating in the initial survey. This study did consider some of the same variables that were included in Hall's model of the process of career development.

Barnes (1976) investigated the effects of personality and person-environment congruence on job satisfaction of community college faculty and professional staff (N=515) from ten community colleges and one technical institute. Holland's Vocational Preference Inventory was used to assess personality types; Holland's Environmental Assessment Technique was used to determine environmental models; and the Job Descriptive Index was used to measure five dimensions of job satisfaction. Barnes found that individuals grouped according to the Holland's six personality types responded similarly to the five satisfaction scales of the Job Descriptive Index. Furthermore, the results did not suggest that the level of congruence between an individual and that person's environment was positively related to overall job satisfaction.

Job Involvement

Job involvement has been defined as the degree to which individuals are identified psychologically with their work or the importance of work in their total self-image (Lodahl & Kejner, 1965, p. 24).

Rabinowitz and Hall (1977) discussed job involvement as being one of the key measures of assessing an individual's quality of work life. Their review of the job involvement literature suggested that an individual's level of job involvement was related to a variety of variables such as the job characteristics of task variety and autonomy, the facets of job satisfaction, particularly satisfaction with the

work itself, and certain individual difference variables such as higher order need strength and belief in the Protestant work ethic.

Rabinowitz and Hall (1981) investigated the changing correlates of job involvement over different career stages (21-35 years, 36-50 years, and 51+ years). Results from data collected for 332 civil service employees showed that job characteristics such as task variety, autonomy, task identity, and feedback and also a facet of job satisfaction--satisfaction with the work itself--were more strongly ($p < .05$) and consistently related to job involvement in the early career stage than in any other career stage. For the midcareer group, the individual difference variables were more important as compared to the other career stages. For all three career groups, rewards (i.e., psychological success, organizational identification, and performance-based rewards) were related to job involvement. The reward variables showed the strongest relationship to involvement for the late career group.

Demographic Characteristics

In the past, the rapid growth of community colleges provided the basis for institutional renewal. New technology and innovative instructional strategies were brought into institutions as a consequence of the increased demands brought on the community colleges by the non-traditional student. A static state has prevailed at community colleges for the past few years, and institutional renewal can no longer depend on adding faculty positions. Furthermore, retirement of instructors or the turnover of faculty has not occurred as rapidly as in the 1960s or early 1970s.

The current status of instructors in community colleges in terms of certain demographic variables was described by the American Association of Community and Junior Colleges (AACJC). According to the data, 56 percent of the faculty members in public two-year colleges had tenure and 75 percent of the faculty had earned master degrees (AACJC, 1979a). The data also revealed that (1) projections for full-time faculty positions would decline by 5.7 percent between 1982 and 1985, (2) few states required formal certification and, therefore, did not have renewal requirements, and (3) passage of the Age Discrimination in Employment Act (ADEA) effective July 1, 1982, would extend the work-life of two-year college faculty for an additional six years (AACJC, 1979b). These data prompted an interest to determine whether the work climate characteristics and work attitudes were affected by one's age, job tenure, or academic preparation.

Age. Hall and Mansfield (1975) studied the changing career experiences of professional engineers and scientists in 1967 (N=290) and 1969 (N=90). Age was related to (a) amount of various needs (security, affiliation, esteem, autonomy, and self-actualization), (b) aspirations for needs, (c) importance of needs, (d) satisfaction with needs, (e) self-image, (f) organizational climate, (g) job challenge, (h) job involvement, (i) intrinsic motivation, (j) perceived performance, and (k) perceived effort. One-way analyses of variance between each variable and different age groups (20-34 years, 35-49 years, and 50+ years) were conducted. The results showed general positive trends for age and need for security, job involvement and intrinsic motivation. General negative trends were shown for age and self-actualization needs and self-image.

Studies of the relationship between job satisfaction and age have shown positive linear trends with age (Altimus & Tersine, 1973; Gibson & Klein, 1970; Hulin & Smith, 1965). Cohen and Brawer (1977) found a similar relationship for community college faculty. In their survey of community college humanities faculty, instructors in the "35 and under" group tended to report lower job satisfaction than those instructors in the "over 45" group.

Educational level. A review of the literature by Kaufman (in press) as cited by Bamundo and Kopelman (1980) indicated that higher occupational groups were more highly job involved and viewed their work as more central to their lives than did lower occupational groups. Several investigations have reported that more educated employees report relatively less overall job satisfaction than their less educated co-workers (Goodwin, 1969; Hughes & Flowers, 1973).

Job tenure. Investigators who have studied the relationship between tenure and job satisfaction have reported mixed findings. Hulin and Smith (1965), Alderfer (1967), and Locke (1976) found a positive relationship between seniority and satisfaction, while Gibson and Klein (1970) found a negative relationship. Cohen and Brawer (1977) found a general tendency for a positive relationship between job satisfaction and length of service for the two-year faculty in their study.

Hall and Lawler (1969) found that the longer researchers worked for an organization, the less important self-fulfillment was to them and the more important security was. Increasing tenure was also

related to changes in self-image--the individuals reported themselves as being less active, less strong, and less independent as tenure increased.

Causal Modeling and Path Analysis

The research reviewed in the preceding section relied, on the whole, on simple correlational analysis. A few studies used partial correlational analysis to study the moderating effect of the variables under investigation; fewer still used multivariate techniques to look at the combined effects of the relevant variables to explain theory. Certainly the literature concerning the nature of work for community college faculty and their attitudes about their career experiences, what little there was, has not investigated the interrelationships of the appropriate variables. Rather, efforts to develop a theory of the influence of work on faculty have been piecemeal.

The integration of concepts concerning job characteristics and their effects on faculty attitudes required more sophisticated analytical techniques than has been the case in past research. Causal modeling has been cited as an analytical technique with potential for bridging the gap between theory and empirical research. Land (1969) described the rationale for causal modeling:

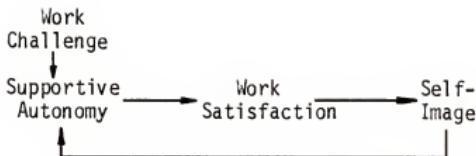
. . . the essential idea of the causal model involves the construction of an oversimplified model of reality in the sense that the model considers only a limited number of variables and relations out of the universe of social reality. Using the results of past research and current theory, the causal model is written as a set of structural equations that represent the causal processes assumed to operate among the variables under consideration. The structural equations, in turn, lead to parameter estimation procedures and

evaluation of the model. The outcome of the empirical evaluation process is either the corroboration or reformulation of the causal model. Finally, the inadequacies of the model should precipitate a reconstruction of the substantive theory that generated the causal model at the outset (pp. 3-4).

Path analysis has been described as a means of determining whether the specified structural equations actually correspond to the real world. In other words, does the set of equations actually predict how a change in any one variable in the path model affects the values of the other variables in the model. Thus, the contribution of path analysis is seen as more complex than just examining the size of the correlation between two variables. Path analysis allowed the examination of whether the correlation between two variables was determined by their mutual dependence on one another or whether they had a relationship because of the effects of intervening variables. Besides being able to break down the relationship between variables into direct and indirect effects, Land (1969) has stated that the residual path coefficient is significant in the interpretation of causal systems for it represents all unmeasured variables which caused variation in a dependent variable.

Based upon Hall's model of psychological success, three studies have used causal modeling and/or path analysis techniques for predicting relationships.

Hall and Schneider (1973) predicted the following series of relationships for a sample of Roman Catholic diocesan priests (N=373):



The relationships were tested using causal modeling procedures recommended by Blalock (1964). Hall and Schneider found that the hypothesized relationships in the success cycle were the strongest for the group of priests whose work was characterized by a high degree of supportive autonomy. Among priests experiencing a low amount of supportive autonomy, the "success cycle" appeared to stop at work satisfaction; that is, there was little relationship between work satisfaction and self-image for this group, indicative perhaps of a protection of one's self-image from what was found to be a frustrating work role. Supportive autonomy was directly correlated with the priest's feelings of work challenge and work satisfaction.

As part of an evaluation of Federal Title I programs for economically disadvantaged students, Hall and Hall (1976) tested the following causal chain of relationships:

goals → psychological success → support and feedback → self-image → involvement → future goals

Data were collected from 304 students in two public primary schools. Questionnaires were administered to the students in the fall and spring of one school year. In the school with high levels of support and feedback, there was evidence from path analysis of the hypothesized cycle of success ($p < .05$). In the lower support school, there was less evidence for the cycle; that is, personal goals were not related to success, but rather self-image was related to success.

Hall and Foster (1977) tested the following series of relationships for 61 participants in a simulated management exercise:

goals → effort → performance → psychological success → self-image → involvement → later goals.

Two measurements were taken, and the relationships were tested with path analysis and cross-lagged correlations. The model received partial support. All relationships were as predicted ($p < .05$) except the effort → performance relationship. The failure of effort to predict performance was possibly explained by the moderator effect of a supportive climate in the goal-performance relationship.

Path analysis and causal modeling have only been recently used in education and usually have been limited to "analyses of the causes and consequences of educational attainment" (Wolfle, 1980, p. 183). This is in spite of the fact that causal modeling and path analysis have been suggested as particularly well-suited for some types of investigations in education. Heise (1975) stated:

The possibility of causal analysis and inference without manipulation is crucially important in the social sciences in which so many political, practical, and ethical problems narrow the possibilities of implementing classical experiments (p. 3).

Anderson and Evans (1974) used a study of the effect on school teachers of bureaucratic rules as an illustration of the potential of causal modeling and path analysis. Dill and Friedman (1979) used causal flowgraphs to display the relationships of four innovation frameworks and recommended the use of path analysis in any subsequent testing of the models.

The present study afforded the opportunity to apply causal modeling techniques and path analysis to the process of career development and growth for community college faculty. Causal modeling techniques can be used to construct a simple model of reality, and path analysis can be used to determine the fit of the specified model to the sample data.

Summary of the Chapter

This chapter has included the theoretical bases of Douglas T. Hall's Career Development Model and has explained its components. Hall (1976) has formulated a model that postulates the relationships among certain job characteristics and work attitudes. The model expressed the notion that individuals can work on goals that are personally meaningful, set their own paths to attain the goals, and then receive feedback and recognition upon the achievement of those goals, they will achieve a feeling of psychological success. This feeling of psychological success would lead to increased self-image, which would lead to increased work satisfaction and then increased involvement with the job.

This chapter also contains a review of the research and theory relating to the variables in the specified path model. The relationships posited in Hall's model were confirmed to some extent, although each of the bivariate linkages have not all been studied specifically. Few studies in the educational literature have dealt with the specific relationships postulated in Hall's model. Most of the educational literature reviewed the relationship of job satisfaction to demographic

characteristics of faculty. However, the findings in the educational literature suggested tendencies similar to those found in the organizational behavior literature. The last section reviewed the use of causal modeling and path analysis in testing portions of Hall's model. The potential of path analysis for educational research was cited.

CHAPTER THREE

METHODOLOGY

Introduction

The purpose of this investigation was to study the relationships between and among certain (1) demographic variables, (2) job characteristics, and (3) work attitudes for community college instructors in terms of a general framework suggested by Douglas T. Hall.

Instrumentation

The Work Experiences Questionnaire (WEQ) includes measures of each of the concepts specified in Hall's theoretical framework (1976). In addition, the instrument asks for information regarding demographic characteristics. The full instrument contains 114 items and appears in Appendix I.

Description of WEQ

The WEQ provides measures of the three work climate characteristics--work challenge and meaning, supportive autonomy, and feedback and recognition--plus four work attitudes--psychological success, self-image, work satisfaction, and job involvement. Except for certain questions in the work climate characteristics section written by the researcher, the items in the WEQ had been used previously by Hall in his research

(Schein & Hall, 1967; Hall, 1968; Hall & Lawler, 1970; Lawler & Hall, 1970; Hall, Schneider, & Nygren, 1970; Hall, 1971; Hall & Schneider, 1973; Hall & Mansfield, 1975; Hall, 1976; Hall & Hall, 1976; Hall & Foster, 1977; Hall, Goodale, Rabinowitz, & Morgan, 1978; Rabinowitz & Hall, 1981).

Work challenge and meaning (10 items), supportive autonomy (25 items), and feedback and recognition (14 items) were patterned after similar items used by Hall and Schneider (1973). The items which were added in the work climate section (Section 2) by the researcher reflected specific aspects of the work of faculty which would logically correspond to the work climate characteristics. The terminology for all items in this section was adapted for use with instructors in two-year colleges. A five-point Likert-type scale was used for the items in this section--above average, somewhat above average, average, somewhat below average, and below average. The weights for these responses were from 5 to 1, with "above average" as 5 and "below average" as 1.

Items in Section 3 of the WEQ assessed the variables psychological success and job involvement. Psychological success was measured with seven items (items 55 through 61) which assessed the instructors feelings of competence and success on the job. Similar items had been used by Hall and Hall (1976), Hall and Foster (1977), and Hall et al. (1978). Job involvement was assessed with seven items (items 62 through 68) from the job involvement scale developed by Lodahl and Kejner (1965) who reported extensive data on reliability and validity. Similar items from this scale had been used in Hall and Lawler (1970),

Lawler and Hall (1970), Hall and Mansfield (1975), and Hall and Foster (1977). All items in Section 3 used a five-point Likert-type scale--strongly agree, agree, undecided, disagree, and strongly disagree. These responses were weighted from 5 to 1, with "strongly agree" as 5 and "strongly disagree" as 1.

Self-image was measured using a semantic differential technique with a scale formed by 28 adjective pairs (items 69-96). Schein and Hall (1967), Hall et al. (1970), Hall and Schneider (1973), and Hall and Mansfield (1975) used a similar technique and similar items.

Work satisfaction was measured with the "work scale" of the Job Descriptive Index, whose reliability and validity were discussed in Smith et al. (1969). This particular scale (18 items) was used by Hall and Schneider (1973) and Hall et al. (1978); and the entire Job Descriptive Index had also been used by Rabinowitz and Hall (1981) as a measure of job satisfaction. The respondent was asked to indicate "yes," "no," or "?" (undecided) to each item. The scoring for these items was as follows:

"Yes" to a positive item	3
"No" to a negative item	3
"?" (Undecided) to any item	1
"Yes" to a negative item	0
"No" to a positive item	0

Items 97, 99, 101, 102, 103, 105, 106, 108, 109, and 114 were scored as positive items; and items 98, 100, 104, 107, 110, 111, 112, and 113 were scored as negative items.

Development of WEQ

Three university professors and five community college instructors reviewed the preliminary instrument. These individuals were instructed to take note of possible areas of revision in terms of clarity of wording of instructions, possible ambiguity of items, and relevance to the work experiences of community college instructors. Slight revisions were made in the instrument as a result of this process.

Pilot Study

The investigator conducted a pilot study to determine the suitability of the instrument format and to provide data for an analysis of the items in the work climate section.

Subjects. The sample consisted of the full-time teaching faculty in two community colleges in Florida. The instructors at these institutions were selected because of the willingness of on-campus facilitators to assist with this project. One person at each college was contacted to serve as on-campus facilitator to distribute the surveys. Once the facilitators agreed to assist with the project, the president of one college and the executive vice president of the other college were asked permission to conduct the survey of the faculty in their institutions. Permission was received from both colleges.

All full-time teaching faculty at both colleges were included in the population since they were accessible, represented a wide range of teaching areas, and were similar to the research sample. Four hundred thirty-three questionnaires were distributed--287 at one college and 146 at the other. A letter explaining that the survey

was a study of the work experiences of community college instructors was attached to each questionnaire. The surveys were distributed through the campus mail by the facilitators and were to be returned by the respondents directly to the researcher in the stamped, pre-addressed envelope that was provided. An original date of March 24, 1981, was set for response. A follow-up letter was sent to all instructors; and a final cut-off date of April 8, 1981, was established. After that date, 293 survey forms had been returned, of which 10 were eliminated because of missing data. The 283 remaining questionnaires represented a 65 percent response rate.

Results. Two hundred eighty-three instructors completed the preliminary WEQ. The sample was split fairly evenly along academic/vocational lines. Instructors from the natural sciences, mathematics, social sciences, and humanities areas made up approximately 45 percent of the resulting sample; and instructors from business, health-related, trade, and public service made up approximately 47 percent. The "other" category contained instructors of developmental studies and certain technical programs. The categorization scheme for Item 1 (Major Field of Teaching) was changed on the final form of the WEQ to reflect a "technical" choice instead of the "public service" choice.

The age statistics for the pilot sample reflected the national trend for older instructors. The median range for this sample was the 41-45 category. A majority (approximately 61 percent) of the instructors who responded in the pilot study had their masters' degrees. Approximately 58 percent of the respondents were male, 42 percent female. Approximately 47 percent of the instructors had

worked at their present institution for ten years or less, 53 percent had worked at their present institution for more than ten years.

Analysis of the items in the work climate section of the WEQ was conducted. The goal of the item analysis was to construct three scales--one for each of the variables measured in this section--based on the a priori dimension designation of the items. Decisions regarding which items to retain and which to exclude from the final makeup of the scales were based on comparisons of the a priori formulation with the results of the intercorrelation of the items, principal-components analysis (factor loadings and communality estimates), item-total correlations, and reliability estimates. Selected items met these criteria: (1) loaded with other a priori designated items, (2) loaded on only one factor, (3) obtained a high ($> .4$) item-total correlation, and/or (4) obtained a high ($> .4$) communality estimate. Appendix II contains a detailed discussion of the selection process based on the item analysis of the work climate section.

Reliability

Item-total correlations, internal consistency estimates, and standard deviations based on pilot study data are reported in Table I. The coefficient alphas were within reasonable limits which indicated acceptable reliability for the constructed variable scales. The mean and standard deviation for each constructed variable scale are also shown in Table I.

TABLE I

ITEM-TOTAL CORRELATIONS, RELIABILITY ESTIMATES, MEANS, AND STANDARD DEVIATIONS FOR CONSTRUCTED VARIABLE SCALES
BASED ON PILOT DATA

Variable	Item	Corrected Item - Total Correlation	Coefficient Alpha	Scale Mean	S. D. of Scale Mean
Work Challenge	6	.386	.807	3.86	.616
	8	.610			
	26	.680			
	29	.671			
	35	.411			
	38	.480			
	47	.556			
Supportive Autonomy	9	.793	.959	3.380	.966
	10	.835			
	11	.692			
	12	.808			
	13	.829			
	14	.717			
	20	.664			
	23	.793			
	33	.738			
	39	.869			
	44	.851			
	46	.660			
	48	.747			
	53	.817			
	54	.645			

(Continued)

TABLE I--CONTINUED

Variable	Item	Corrected Item - Total Correlation	Coefficient Alpha	Scale Mean	S. D. of Scale 'mean
Feedback	22	.618	.834	2.813	.785
	24	.607			
	25	.627			
	37	.441			
	42	.699			
	50	.465			
Psychological Success	52	.643	.851	4.190	.596
	55	.655			
	56	.590			
	57	.741			
	58	.608			
	59	.580			
	60	.574			
	61	.716			
	62	.637			
	63	.673			
Job Involvement	64	.697	.764	2.612	1.00
	65	.504			
	66	.451			
	67	.300			
	68	.204			
(Continued)					

TABLE I--CONTINUED

Variable	Item	Corrected Item - Total Correlation	Coefficient Alpha	Scale Mean	S. D. of Scale Mean
Self-Image	69	.526	.870	5.828	.559
	70	.298			
	71	.344			
	72	.317			
	73	.399			
	74	.123			
	75	.510			
	76	.360			
	77	.287			
	78	.345			
	79	.150			
	80	.398			
	81	.584			
	82	.504			
	83	.461			
	84	.503			
	85	.495			
	86	.495			
	87	.518			
	88	.626			
	89	.582			
	90	.642			
	91	.589			
	92	.335			
	93	.538			

(Continued)

TABLE I--CONTINUED

Variable	Item	Corrected Item - Total Correlation	Coefficient Alpha	Scale Mean	S. D. of Scale Mean
Work Satisfaction	94	.533			
	95	.219			
	96	.471			
	97	.514	.768	2.204	.460
	98	.474			
	99	.580			
	100	.464			
	101	.440			
	102	.438			
	103	.371			
	104	.037			
	105	.543			
	106	.239			
	107	.463			
	108	.244			
	109	.580			
	110	.089			
	111	.355			
	112	.234			
	113	.209			
	114	.526			

Present StudySubjects

The sample consisted of 483 full-time teaching faculty at eight two-year colleges in six states--Georgia, Iowa, Illinois, Kansas, Massachusetts, and North Carolina. These instructors represented a random sampling of 50 percent of the total faculty at each college. These colleges were selected because they represented a broad geographical area and varying faculty size. Appendix III contains the letter requesting the president's permission to include that college in the study.

Data Collection

The WEQ was distributed by the campus facilitator to the selected instructors through the campus mail. A transmittal letter accompanied the WEQ which stated the purpose of the survey and which requested that the completed survey be returned in the pre-addressed, stamped envelope by May 6, 1981 (see Appendix IV for transmittal letter). A follow-up letter was sent which specified May 22, 1981, as the final cut-off date for responding (see Appendix V for follow-up letter).

Three hundred eight (308) respondents returned questionnaires, of which 11 were eliminated from the analysis because of incomplete information. This represented a final overall response rate of 62 percent. Appendix VI presents an analysis of the response rate by college.

Data Analyses

Frequencies and percentages were calculated for all demographic items in Section 1 of the WEQ. The mean and standard deviation for items 6-114 were calculated. The mean, standard deviation, item-total correlations, and reliability estimates were computed for the following constructed variable scales: work challenge and meaning, supportive autonomy, feedback and recognition, psychological success, self-image, work satisfaction, and job involvement. Pearson product moment correlation coefficients were computed for all possible combinations of these variables plus the three demographic variables of educational preparation, age, and job tenure.

Structural equations were written which restated the diagrammatic representation of the path model. The equations written were:

$$X_4 = P_{43}X_3 + P_{42}X_2 + P_{41}X_1 + P_{4e}e_4$$

$$X_5 = P_{54}X_4 + P_{53}X_3 + P_{52}X_2 + P_{51}X_1 + P_{5e}e_5$$

$$X_6 = P_{65}X_5 + P_{63}X_4 + P_{62}X_2 + P_{61}X_1 + P_{6e}e_6$$

$$X_7 = P_{76}X_6 + P_{75}X_5 + P_{74}X_4 + P_{7e}e_7$$

$$X_8 = P_{87}X_7 + P_{8e}e_8$$

$$X_9 = P_{98}X_8 + P_{9e}e_9$$

$$X_{10} = P_{10,9}X_9 + P_{10,e}e_{10}$$

where,

X_1 --level of education

X_2 --age

X_3 --job tenure

X_4 --work challenge and meaning

X_5 --supportive autonomy

X_6 --feedback and recognition

X_7 --psychological success

X_8 --self-image

X_9 --work satisfaction

X_{10} --job involvement

The P_{ij} 's represented standardized path coefficients, known as path coefficients, where the subscript "i" denoted the dependent variable.

The χ^2 "goodness of fit" of the estimated model with the actual model was calculated. T-test's were employed to judge whether the size of the path coefficients were significant. SAS (1979), SPSS (Nie et al., 1975) and LISREL IV (Joreskog & Sorbom, 1978) were used to compute all statistics.

Summary of the Chapter

This chapter contains the methodological procedures used in this investigation. The development of the Work Experiences Questionnaire was described. The procedures involved in the item analysis of the work climate section of the WEQ were stated. The reliability estimates for the variables based on pilot study data measured by the WEQ ranged from .75 to .96. Finally, this chapter contains a description of subjects, data collection procedures, and data analysis techniques.

CHAPTER FOUR

FINDINGS

Introduction

The purpose of this study was to investigate the interrelationships between and among demographic variables, job characteristics, and work attitudes for two-year college instructors. The investigator used the Model of Career Development postulated by Douglas T. Hall as a framework to guide the research. Level of academic preparation, age, and length of service at one's present institution were the demographic variables considered. The job characteristics studied were work challenge and meaning, supportive autonomy, and feedback and recognition. Psychological success, self-image, work satisfaction, and job involvement were the work attitudes investigated.

The researcher pilot tested the survey instrument to be used in the study on faculty in two community colleges in Florida. Then permission was obtained from eight college presidents in six other states to survey the faculty in those institutions. The Work Experiences Questionnaire was designed to obtain information concerning the ten variables under investigation.

This chapter describes the results of the study. First, demographic data of the participants are discussed. Then, the results pertaining to each of the hypotheses under investigation are described in terms

of the appropriate structural models. Estimates based on path analysis were used to test each of the hypotheses.

Descriptive Analysis

A subprogram of the Statistical Analysis System (SAS, 1969) computer program was used to calculate the frequencies and percentages for the demographic variables. It was also used to compute the mean and standard deviation for each of the constructed scale scores. The intercorrelations between all of the variables was calculated using SAS, and item-total correlations and reliability estimates were computed using SPSS (Nie et al., 1975).

The data regarding demographic variables is presented in Table II. Inspection of Table II revealed that "humanities" instructors made up approximately 22 percent of the sample. The next largest group of respondents (approximately 19 percent) categorized their major field of teaching as "health-related." About 43 percent of the respondents were considered instructors in the "academic" areas, whereas 36 percent were considered "vocational/technical" instructors. Approximately the same number of respondents fell into the age categories of 31-35 (19.8 percent), 36-40 (19.8 percent), and 41-45 (17.8 percent). The median age category was the 41-45 choice.

Slightly more than half of the respondents (51.8 percent) held a master's degree. The bachelor's degree was the highest degree held for 17.5 percent of the respondents. Males comprised 52.8 percent of

TABLE II
FREQUENCY AND PERCENTAGE DISTRIBUTIONS
FOR DEMOGRAPHIC ITEMS

Major Field of Teaching	Frequency	Percent
Natural Sciences	17	5.7
Mathematics	20	6.7
Social Sciences	26	8.7
Humanities	66	22.2
Business	46	15.4
Health-Related	57	19.1
Trade	20	6.7
Technical	14	4.7
Other	31	10.4

Age	Frequency	Percent
25 or under	1	.3
26-30	27	9.0
31-35	59	19.8
36-40	59	19.8
41-45	53	17.8
46-50	37	12.4
51-55	30	10.1
56-60	19	6.3
Over 60	12	4.0

Highest Degree Held	Frequency	Percent
Less than Bachelor's	22	7.4
Bachelor's degree	53	17.8
Master's degree	154	51.8
Educational Specialist's	29	9.7
Doctorate	37	12.4
Other	3	1.0

(Continued)

TABLE II--CONTINUED

Sex	Frequency	Percent
Female	140	47.1
Male	157	52.8
Job Tenure at this College	Frequency	Percent
Less than one year	20	6.7
1-5 years	81	27.2
6-10 years	108	36.3
11-15 years	71	23.9
16-20 years	13	4.3
21-25 years	4	1.3

sample and females 47.1 percent. Seventy (70) percent of the respondents had been employed ten years or less at their present institution.

This figure was somewhat unexpected, for the trends in higher education suggest a faculty that is more tenured.

The mean and standard deviation for items 6-114 is presented in Appendix VII. The same pattern of variation as occurred in the pilot study was evident.

The item-total correlations, reliability estimates, mean, and standard deviation for each of the constructed variable scales are shown in Table III. The coefficient alpha for each scale indicated sufficient reliability. Work challenge, supportive autonomy, and feedback items were measured on a five-point Likert-type scale with 1 representing "below average" and 5 "above average." Psychological success and job involvement items were measured on a five-point Likert type scale with 1 representing "strongly disagree" and 5 representing "strongly agree." Self-image was measured on a continuum from 1 to 7, and work satisfaction had a range of 0 to 3.

The results reported in Table III indicate that the work climate characteristics--work challenge, supportive autonomy, and feedback--averaged around 3.0 and that the standard deviations for these variables indicated little variation in response. Psychological success, self-image, and work satisfaction averaged on the high end of their respective scales. Job involvement, however, averaged on the low side of its scale. The standard deviations for psychological success, self-image, work satisfaction, and job involvement indicated sufficient variety of response.

TABLE III

ITEM-TOTAL CORRELATIONS, RELIABILITY ESTIMATES, MEANS, AND
STANDARD DEVIATIONS FOR CONSTRUCTED VARIABLE SCALES

Variable	Item	Corrected Item - Total Correlation	Coefficient Alpha	Scale Mean	S. D. of Scale Mean
Work Challenge	6	.432	.808	3.779	.633
	8	.591			
	26	.680			
	29	.697			
	35	.305			
	38	.484			
	47	.628			
Supportive Autonomy	9	.775	.952	3.351	.871
	10	.831			
	11	.724			
	12	.803			
	13	.754			
	14	.761			
	20	.536			
	23	.784			
	33	.715			
	39	.839			

(Continued)

TABLE III--CONTINUED

Variable	Item	Corrected Item - Total Correlation	Coefficient Alpha	Scale Mean	S. D. of Scale Mean
Feedback	22	.543	.768	2.893	.663
	24	.595			
	25	.513			
	37	.269			
	42	.466			
	50	.483			
Psychological Success	52	.602	.858	4.127	.632
	55	.638			
	56	.605			
	57	.755			
	58	.629			
	59	.619			
Job Involvement	60	.522	.680	2.473	.899
	51	.768			
	62	.536			
	63	.624			
	64	.591			
	65	.394			
	66	.296			
	67	.169			
	68	.178			

(Continued)

TABLE III--CONTINUED

Variable	Item	Corrected Item - Total Correlation	Coefficient Alpha	Scale Mean	S. D. of Scale Mean
Self-Image	69	.432	.875	5.750	.563
	70	.250			
	71	.390			
	72	.321			
	73	.461			
	74	.043			
	75	.499			
	76	.455			
	77	.315			
	78	.333			
	79	.278			
	80	.495			
	81	.577			
	82	.495			
	83	.481			
	84	.563			
	85	.563			
	86	.578			
	87	.494			
	88	.554			
	89	.567			
	90	.603			

(continued)

TABLE III--CONTINUED

Variable	Item	Corrected Item - Total Correlation	Coefficient Alpha	Scale Mean	S. D. of Scale Mean
Work Satisfaction	91	.497			
	92	.562			
	93	.452			
	94	.542			
	95	.225			
	96	.421			
	97	.480	.779	.484	.484
	98	.417			
	99	.566			
	100	.463			
	101	.367			
	102	.504			
	103	.375			
	104	.030			
	105	.516			
	106	.321			
	107	.417			
	108	.322			
	109	.547			
	110	.084			
	111	.438			
	112	.221			
	113	.236			
	114	.622			

(Continued)

Pearson product moment correlations for all of the variables are shown in Table IV. Most of the intercorrelations involving the demographic variables were non-significant whereas the intercorrelations between the scale scores were significant ($p < .05$) and in the direction predicted. Job tenure was significantly correlated ($p < .05$) with age and educational preparation. In addition, age was significantly correlated ($p < .05$) with level of psychological success, work satisfaction, and job involvement.

Path Analysis

The path model considered in this study was given in Figure 1 (see page 6). The following structural equations were derived to describe the relationships among the variables under consideration:

$$X_4 = P_{43}X_3 + P_{42}X_2 + P_{41}X_1 + P_{4e}e_4$$

$$X_5 = P_{54}X_4 + P_{53}X_3 + P_{52}X_2 + P_{51}X_1 + P_{5e}e_5$$

$$X_6 = P_{65}X_5 + P_{63}X_4 + P_{62}X_2 + P_{61}X_1 + P_{6e}e_6$$

$$X_7 = P_{76}X_6 + P_{75}X_5 + P_{74}X_4 + P_{7e}e_7$$

$$X_8 = P_{87}X_7 + P_{8e}e_8$$

$$X_9 = P_{98}X_8 + P_{9e}e_9$$

$$X_{10} = P_{10,9}X_9 + P_{10,e}e_{10}$$

The exogenous variables were:

X_1 --level of education,

X_2 --age,

X_3 --job tenure;

and the endogenous variables were:

TABLE IV

PEARSON PRODUCT MOMENT CORRELATIONS AND LEVELS OF SIGNIFICANCE FOR
ENDOGENOUS AND EXOGENOUS VARIABLES

	1	2	3	4	5	6	7	8	9	10
1. Age	.076 .1836*	.426 .0001	.093 .1032	-.021 .7105	.029 .6081	.174 .0023	.069 .2259	.190 .0009	.205 .0003	
2. Highest Degree Held	.179 .0019	-.034 .5532	-.016 .7750	-.027 .6320	-.088 .1246	.016 .7805	-.101 .0763	-.101 .0763	-.025 .6553	
3. Job Tenure at this College	-.070 .2260	-.094 .1030	-.077 .1845	.028 .6262	-.018 .7491	-.009 .8688	.075 .1960			
4. Work Challenge	.416 .0001	.451 .0001	.451 .0001	.661 .0001	.404 .0001	.529 .0001	.180 .0016			
5. Supportive Autonomy				.730 .0001	.264 .0001	.121 .0340	.252 .0001	-.036 .5317		
6. Feedback					.363 .0001	.144 .0119	.355 .0001	.094 .1008		
7. Psychological Success						.433 .0001	.608 .0001	.290 .0001		
8. Self-Image							.331 .0001	.150 .0089		
9. Work Satisfaction								.226 .0001		
10. Job Involvement									.226 .0001	

* Significance level

x_4 --work challenge and meaning,

x_5 --supportive autonomy,

x_6 --feedback and recognition,

x_7 --psychological success,

x_8 --self-image,

x_9 --work satisfaction, and

x_{10} --job involvement

The parameters of the path model as originally specified were not identified in that each structural equation included one more unknown parameter than could be allowed to solve the equation. This resulted in an under-identified model. Because of this identification problem, the parameters in the model could not be estimated using path analysis. The problem was resolved by making a decision to consider the variable "work challenge" as exogenous instead of endogenous to the model. In effect this change meant that the variable "work challenge" was not explained by the variables educational preparation, age, or job tenure, but rather the causes for the level of perceived work challenge came from variables outside the model. This approach seemed reasonable since work challenge was dependent on only exogenous variables in the original conceptualization. Thus, the estimated model contained six dependent variables and four predetermined or exogenous variables. Also as a result of this re-specification of the model, hypotheses 1, 4, and 7 found on pages 8 and 9 of this report could not be tested. Consequently, these were the structural equations to be estimated:

$$X_5 = P_{54}X_4 + P_{53}X_3 + P_{52}X_2 + P_{51}X_1 + P_{5e}e_5$$

$$X_6 = P_{65}X_5 + P_{63}X_3 + P_{62}X_2 + P_{61}X_1 + P_{6e}e_6$$

$$X_7 = P_{76}X_6 + P_{75}X_5 + P_{74}X_4 + P_{7e}e_7$$

$$X_8 = P_{87}X_7 + P_{8e}e_8$$

$$X_9 = P_{98}X_8 + P_{9e}e_9$$

$$X_{10} = P_{10,9}X_9 + P_{10,e}e_{10}$$

Figure 3 depicts the re-structured path model, which shows work challenge and meaning as an exogenous variable.

As a preliminary step to conducting path analysis of the data, the General Linear Model subprogram (SAS, 1979) was employed to compute regression coefficients for the parameters in each of the structural equations. These estimates were used in subsequent analysis. The results of the regression procedures are summarized in Table V. From a structural model point of view, these estimates are not appropriate, however, they are reported here for the interested reader. The regression coefficients which estimated educational preparation, age, and job tenure were non-significant, whereas all those estimating work challenge, supportive autonomy, feedback, psychological success, self-image, work satisfaction, and job involvement were significant ($p < .05$). The R^2 for each variable indicated the percent of variation in the dependent variable accounted for by the variables in each regression equation.

The computer program LISREL IV (Joreskog & Sorbom, 1978) was used to test the goodness of fit of the specified model to the data and to estimate the individual path coefficients.

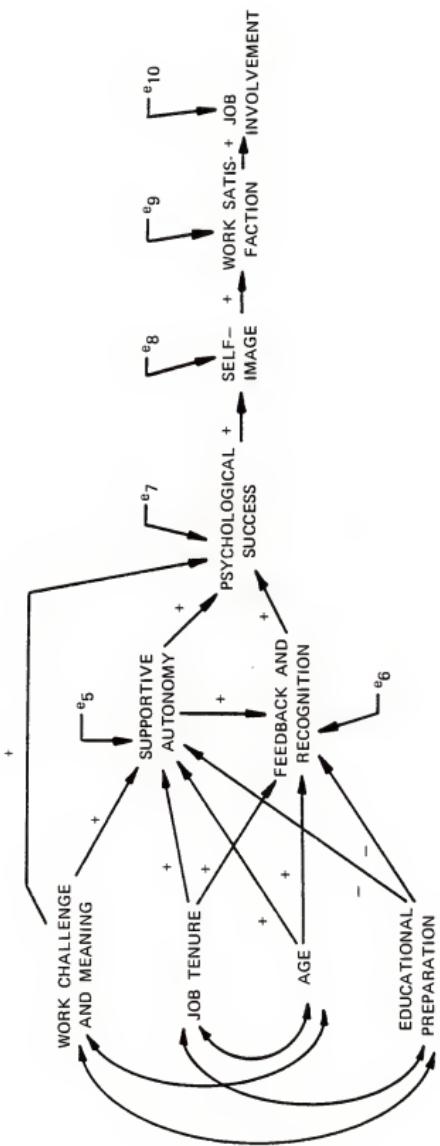


FIGURE 3. RE-STRUCTURED PATH MODEL OF THE PROCESS OF CAREER DEVELOPMENT FOR COMMUNITY COLLEGE INSTRUCTORS.

TABLE V
RESULTS OF REGRESSION PROCEDURES

Dependent Variable	Independent Variable	R ²	Regression Coefficient	Standard Error
Supportive Autonomy	Education	17%	.017	.043
	Age		-.014	.027
	Job Tenure		-.046	.049
	Work Challenge		.559*	.073
Feedback	Education	53%	-.009	.025
	Age		.018	.015
	Job Tenure		-.018	.028
	Supportive Autonomy		.560*	.030
Psychological Success	Work Challenge	44%	.631*	.049
	Supportive Autonomy		-.099*	.046
	Feedback		.159*	.062
Self-Image	Psychological Success	18%	.365*	.045
Work Satisfaction	Self-Image	10%	.303*	.048
Job Involvement	Work Satisfaction	7%	.326*	.065

*p < .05.

Test for Goodness of Fit

The following overall research hypothesis was tested:

There is no significant difference between the estimated variance-covariance matrix based on the path model under study and the actual variance-covariance matrix obtained from the sample data.

This hypothesis tested the fit of the data with the proposed model. Rejection of the hypothesis would have indicated that the model was not appropriate for the data. A test of the hypothesis that there was no difference between the actual and the specified models yielded a χ^2 of 15.903 with 10 degrees of freedom, which is not significant at the 5 percent level. The hypothesis cannot be rejected. The probability of obtaining a χ^2 of 15.903 with 10 degrees of freedom is significant at the 10 percent level. The specified model was found to have a reasonable overall fit with the data.

Tests of Hypotheses

In the following discussion path coefficients are reported in their unstandardized form. The standard errors for each parameter are given in parentheses below each estimate. The interpretation applied to these estimates is that for each unit of increase in the independent variable, the dependent variable increases (decreases) by the amount of the estimate.

The first structural equation to be estimated was

$$X_5 = P_{51}X_1 + P_{52}X_2 + P_{53}X_3 + P_{54}X_4 + P_{55}e_5$$

This model hypothesizes that the variation in levels of supportive autonomy is caused jointly by educational preparation, age, and job

tenure, and the level of perceived work challenge. The following hypotheses were tested as a result of this structural model:

Hypothesis 2: The greater the individual's education (X_1), the less positive the individual's report of supportive autonomy (X_5).

Hypothesis 5: The greater the individual's age (X_2), the more positive the individual's report of supportive autonomy (X_5).

Hypothesis 8: The greater the individual's job tenure (X_3), the more positive the individual's report of supportive autonomy (X_5).

Hypothesis 10: Controlling for the effects of education (X_1), age (X_2), and job tenure (X_3), the more positive the individual's report of work that is challenging (X_4), the more positive the individual's report of supportive autonomy (X_5).

Based on the data, the estimated model was

$$X_5 = .025X_1 - .009X_2 .042X_3 + .556X_4 + e_5$$

$$(.040) (.027) (.049) (.073)$$

The t-values for this equation suggested that only "work challenge" (X_4) ($t=7.6$) had a significant effect ($p < .05$) on the dependent variable supportive autonomy (X_5). The other exogenous variables, educational preparation ($t=.624$), age ($t=-.354$), and job tenure ($t=-.848$) did not have a significant effect on supportive autonomy. Consequently, Hypotheses 2, 5, and 8 were not supported. This indicated that the level of supportive autonomy (X_5) an instructor perceived in her/his job was not determined by educational level (X_1), age (X_2), or job tenure (X_3). Hypothesis 10, however, was supported which indicated that the perceived level of work challenge and meaning in one's job partially determined the perceived level of supportive autonomy.

The second structural model was

$$X_6 = P_{61}X_1 + P_{62}X_2 + P_{63}X_3 + P_{65}X_5 + P_{6e}e_6$$

This model postulates that the variance in feedback (X_6) is determined jointly by the level of perceived supportive autonomy (X_5), educational preparation (X_1), age (X_2), and job tenure (X_3). The hypotheses tested by this structural equation were

Hypothesis 3: The greater the individual's education (X_1), the less positive the individual's report of feedback (X_6).

Hypothesis 6: The greater the individual's age (X_2), the more positive the individual's report of feedback (X_6).

Hypothesis 9: The greater the individual's job tenure (X_3), the more positive the individual's report of feedback (X_6).

Hypothesis 11: Controlling for the effects of education (X_1), age (X_2), job tenure (X_3), and work challenge (X_4), the more positive the individual's report of supportive autonomy (X_5), the more positive the individual's report of feedback (X_6).

Based on the data the estimated model was

$$X_6 = .856X_5 - .010X_1 + .009X_2 + .006X_3 + e_6$$

$$(.087) \quad (.015) \quad (.017) \quad (.033)$$

The t-values for this equation suggested that only the perceived level of supportive autonomy ($t=9.833$) had a significant effect ($p < .05$) on the dependent variable feedback. Educational preparation ($t=.674$), age ($t=.548$), and job tenure ($t=.185$) did not have significant effects on the level of feedback and recognition. Thus, Hypotheses 3, 6, and 9 were not supported while Hypothesis 11 was supported.

These tests indicated that the level of supportive autonomy (X_5)

partially determined the level of feedback (X_6) than did one's educational preparation (X_1), age (X_2), or job tenure (X_3).

The third structural equation was

$$X_7 = P_{74}X_4 + P_{75}X_5 + P_{76}X_6 + P_{7e}e_7$$

This model hypothesizes that the variation in psychological success (X_7) is determined by the level of supportive autonomy (X_5), feedback and recognition (X_6), and work challenge and meaning (X_4) provided by one's job. The hypotheses tested by this structural equation were

Hypothesis 12: Controlling for the effects of education (X_1), age (X_2), job tenure (X_3), supportive autonomy (X_5), and feedback (X_6), the more positive the individual's report of work that is challenging (X_4), the more positive the individual's feelings of psychological success (X_7).

Hypothesis 13: Controlling for the effects of education (X_1), age (X_2), job tenure (X_3), work challenge (X_4), and feedback (X_6), the more positive the individual's report of supportive autonomy (X_5), the more positive the individual's feelings of psychological success (X_7).

Hypothesis 14: Controlling for the effects of education (X_1), age, (X_2), job tenure (X_3), work challenge (X_4), and supportive autonomy (X_5), the more positive the individual's report of feedback (X_6), the more positive the individual's feelings of psychological success (X_7).

The estimated model was

$$X_7 = -4.07X_5 + 5.473X_6 + .291X_4 + e_7$$

(7.36) (13.6) (3.107)

The t-values for these parameters suggested that none of these variables were predictive of the level of psychological success. The reported t-values for supportive autonomy, feedback, and work challenge were -.553, .402, and .094, respectively. Hypotheses 12, 13, and 14 were not supported.

The fourth structural equation was

$$X_8 = P_{87}X_7 + P_{8e}e_8$$

This equation hypothesized that the variation in self-image is caused by one's perceived level of psychological success (X_7). The hypothesis to be tested by this equation was

Hypothesis 15: Controlling for the effects of education (X_1), age (X_2), job tenure (X_3), work challenge (X_4), supportive autonomy (X_5), and feedback (X_6), the more positive the individual's feelings of psychological success (X_7), the more positive the individual's self-image (X_8).

The estimated model was

$$X_8 = .505X_7 + e_8$$

(.069)

The t-value for psychological success (X_7) was 7.312 which suggested that the level of psychological success had a significant effect ($p < .05$) on self-image. As a result, Hypothesis 15 was supported.

The fifth structural model was

$$X_9 = P_{98}X_8 + P_{9e}e_9$$

This equation suggests that variation in work satisfaction is determined by one's self-image. The hypothesis to be tested by this equation was

Hypothesis 16: Controlling for the effects of education (X_1), age (X_2), job tenure (X_3), work challenge (X_4), supportive autonomy (X_5), feedback (X_6), and psychological success (X_7), the more positive the individual's self-image (X_8), the more positive the individual's degree of work satisfaction (X_9).

The estimated model was

$$X_9 = 1.280X_8 + e_9$$

(.191)

The t-value of the self-image parameter (X_8) was 6.711 which suggested that self-image had a significant effect ($p < .05$) on the level of work satisfaction. Consequently, Hypothesis 16 was supported.

The sixth structural model was

$$X_{10} = P_{10,9}X_9 + P_{10}e_{10}$$

This equation suggests that variation in job involvement is determined by the level of work satisfaction. The hypothesis to be tested by this equation was

Hypothesis 17: Controlling for the effects of education (X_1), age (X_2), job tenure (X_3), work challenge (X_4), supportive autonomy (X_5), feedback (X_6), psychological success (X_7), and self-image (X_8), the more positive the individual's degree of work satisfaction (X_9), the more positive the individual's feelings of job involvement (X_{10}).

The estimated model was

$$X_{10} = .566X_9 + e_{10}$$

(.119)

The t-value of the work satisfaction (X_9) parameter was 4.768 which suggested that work satisfaction had a significant effect

($p < .05$) on the level of job involvement (X_{10}). Hypothesis 17 was, therefore, supported. The level of work satisfaction partially determines the level of job involvement.

Path Model

Figure 4 shows the path diagram representing the relationships tested in the above equations. The values shown alongside of each arrow are the estimated path coefficients in standardized form. The interpretation given to a path coefficient is that for each standard deviation increase in the independent variable, the dependent variable increases (decreases) by the amount of the path coefficient. The residual values represent a measure of the variance left unexplained by this model--each residual path coefficient measures the effect of all unmeasured variables not included in the model that cause variation in that variable.

The findings as represented by the path model in Figure 4 can be interpreted as follows. The educational level, age, or job tenure of instructors does not affect the instructors' perceptions of the degree of support they receive from their work climate or their perceptions about the degree of feedback and recognition they receive about their performance. Also, the degree to which community college instructors perceive their work goals as being personally meaningful and challenging determines to some extent their perceptions of the degree of supportive autonomy present in their work. In terms of the path coefficient given in Figure 4 for the path between work challenge and meaning and supportive autonomy, for each standard deviation increase in work challenge and meaning, instructors' perceptions of

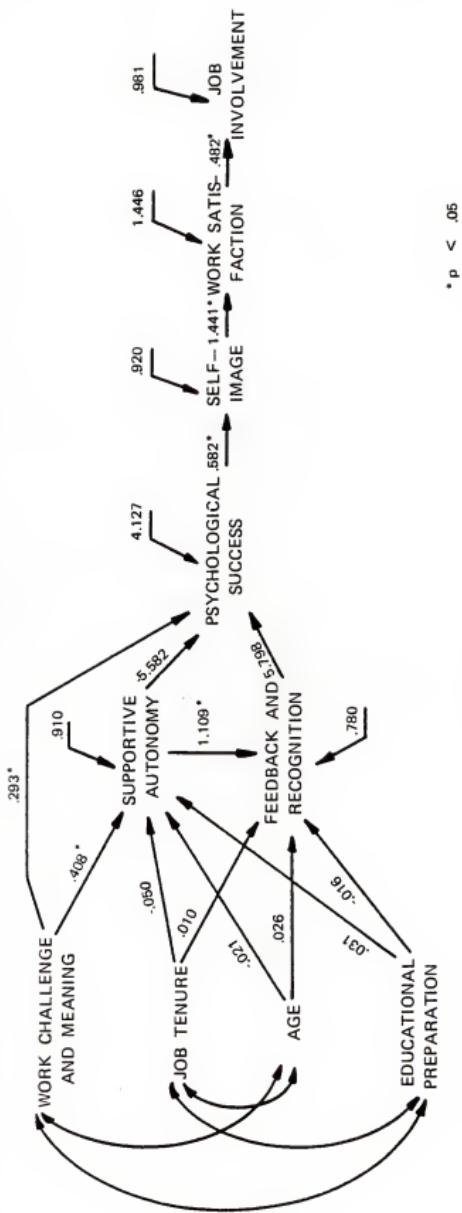


FIGURE 4. PATH MODEL OF THE PROCESS OF CAREER DEVELOPMENT FOR COMMUNITY COLLEGE INSTRUCTORS.

the level of supportive autonomy in their work environment increases by .408 units. Furthermore, the level of instructors' perceptions of the degree of supportive autonomy presence in their work environment determines to some extent the level of feedback and recognition instructors' perceive they receive about their performance. In terms of the path coefficients obtained for the path between supportive autonomy and feedback and recognition as a result of this investigation, for each standard deviation increase in the level of perceived supportive autonomy, the level of perceived feedback and recognition increases by 1.109 units. The results of this investigation did not confirm the notion of Hall's (1976) that the levels of the work climate characteristics determines the level of psychological success instructors feel about their work. The findings of this investigation into the process of the career development and growth for community college instructors did suggest, however, that these feelings of internal success about one's job set off a chain of events related to positive job attitudes. If instructors experience a feeling of success about their work, then their self-image will increase. As their levels of self-image increase, instructors' satisfaction with their work increases and that increase in work satisfaction will increase their level of commitment to their jobs. In terms of the cycle of events caused by increasing levels of psychological success, Hall's Career Development Model received support as a result of this investigation.

Summary of the Chapter

This chapter contains the findings of the study. Completed responses were received from 297 community college instructors, which represented a 62 percent response rate. The variable "work challenge and meaning" had to be considered an exogenous variable for analysis purposes whereas it was originally conceptualized as an endogenous variable. The results showed that the specified path model adequately fit the data of the sample. Furthermore, the demographic variables did not significantly affect the levels of perceived supportive autonomy or feedback and recognition. Most of the remaining postulated relationships were confirmed by path analysis except for the predicted effects of work challenge and meaning, supportive autonomy, and feedback and recognition on psychological success. Of the 14 hypotheses tested, 5 were supported and 9 were not supported. Three hypotheses could not be tested using the path analysis model formulated in this study. A path model reflecting the results was constructed.

CHAPTER FIVE

SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

This chapter presents a summary of the study, and conclusions, implications, and recommendations related to the findings are presented.

Summary

The purpose of this study was to formulate and test a theory of the career development and growth of two-year college instructors. The investigation was guided by the theory of career development through achievement of psychological success, as formulated by Douglas T. Hall (1976). His theory states that given the presence in one's work climate of meaningful and challenging work, supportive autonomy, and feedback and recognition, an individual will experience a feeling of psychological success. Hall believed this feeling of success increases one's self-image which in turn increases one's perceived work satisfaction. This increased work satisfaction increases one's job involvement. This "success" cycle motivates the individual to seek more challenging work goals (see Figure 2, p. 24).

The Work Experiences Questionnaire was developed for this research. The WEQ was designed to measure work challenge and meaning, supportive autonomy, feedback and recognition, psychological success, self-image, work satisfaction, and job involvement--variables used in Hall's

Career Development Model. In addition, the questionnaire requested the respondent to identify her/his major field of teaching, age, job tenure, educational preparation, and sex.

After the completion of a pilot study in which 433 instructors at two Florida community colleges were surveyed, an item analysis was conducted to determine the items to be included in the measure for each variable. The reliability estimates for the constructed variable scales based on the pilot study data ranged from .75 to .96. The questionnaires were then sent to 483 full-time instructors at eight community colleges in six states--Georgia, Illinois, Iowa, Kansas, Massachusetts, and North Carolina. The resulting sample was comprised of 297 subjects, which represented a 62 percent response rate for the data analyses.

Path analysis was conducted to examine the posited relationships. A test of the hypothesis that there was no difference between the actual and the specified models yielded a χ^2 of 15.903 with 10 degrees of freedom, which is not significant at the 5 percent level. The hypothesis was not rejected, therefore, the specified model was found to have a reasonable overall fit with the data. The bivariate hypotheses that were not supported by the path analysis were

Hypothesis 2: The greater the individual's education (X_1), the less positive the individual's report of supportive autonomy (X_5).

Hypothesis 3: The greater the individual's education (X_1), the less positive the individual's report of feedback (X_6).

Hypothesis 5: The greater the individual's age (X_2), the more positive the individual's report of supportive autonomy (X_5).

Hypothesis 6: The greater the individual's age (X_2), the more positive the individual's report of feedback (X_6).

Hypothesis 8: The greater the individual's job tenure (X_3), the more positive the individual's report of supportive autonomy (X_5).

Hypothesis 9: The greater the individual's job tenure (X_3), the more positive the individual's report of feedback (X_6).

Hypothesis 12: Controlling for the effects of education (X_1), age (X_2), job tenure (X_3), supportive autonomy (X_5), and feedback (X_6), the more positive the individual's report of work that is challenging (X_4), the more positive the individual's feelings of psychological success (X_7).

Hypothesis 13: Controlling for the effects of education (X_1), age (X_2), job tenure (X_3), work challenge (X_4), and feedback (X_6), the more positive the individual's report of supportive autonomy (X_5), the more positive the individual's feelings of psychological success (X_7).

Hypothesis 14: Controlling for the effects of education (X_1), age (X_2), job tenure (X_3), work challenge (X_4), and supportive autonomy (X_5), the more positive the individual's feelings of psychological success (X_7).

The following hypotheses were supported by the path analysis:

Hypothesis 10: Controlling for the effects of education (X_1), age (X_2), and job tenure (X_3), the more positive the individual's

report of work that is challenging (X_4), the more positive the individual's report of supportive autonomy (X_5).

Hypothesis 11: Controlling for the effects of education (X_1), age (X_2), job tenure (X_3), and work challenge (X_4), the more positive the individual's report of supportive autonomy (X_5), the more positive the individual's report of feedback (X_6).

Hypothesis 15: Controlling for the effects of education (X_1), age (X_2), job tenure (X_3), work challenge (X_4), supportive autonomy (X_5), and feedback (X_6), the more positive the individual's feelings of psychological success (X_7), the more positive the individual's self-image (X_8).

Hypothesis 16: Controlling for the effects of education (X_1), age (X_2), job tenure (X_3), work challenge (X_4), supportive autonomy (X_5), feedback (X_6), and psychological success (X_7), the more positive the individual's self-image (X_8), the more positive the individual's degree of work satisfaction (X_9).

Hypothesis 17: Controlling for the effects of education (X_1), age (X_2), job tenure (X_3), work challenge (X_4), supportive autonomy (X_5), feedback (X_6), psychological success (X_7), and self-image (X_8), the more positive the individual's degree of work satisfaction (X_9), the more positive the individual's feelings of job involvement (X_{10}).

The results partially supported the specified conceptualization of the theory.

When considering the results of this study, certain limitations in regard to their generalizability should be kept in mind. The

generalizability of the findings may be somewhat restricted because the sample was taken from colleges whose presidents granted permission to conduct the study.

Another limitation on the generalizability was the issue of "volunteers." Although 62 percent of the sample completed the questionnaire, there was the possibility that these respondents differed from the non-respondents. The severity of these limitations was lessened by the descriptive and even exploratory nature of the study.

The validity of the use of work climate characteristics in this study for two-year college faculty may be questioned. The items used in this study for the most part had been used by Hall in previous research. These items had to be adapted for use with two-year faculty and as a result, they may not have been appropriate for this research. A review of the literature did reveal, though, that these same kinds of variables should be important to community college faculty.

Conclusions

Results of the path analysis procedures yielded a test for the goodness of fit of the path model to the data. The results showed an adequate fit of the data to the path model specified. The results cannot be interpreted as meaning this is the only model that fits the data. However, the conclusion can be drawn that the model specified in this study has identified several of the variables which influence an instructor's perceived work environment and the attitudes that instructors have toward their jobs as a result of teaching in a community college.

Job tenure was not predictive, according to the results of the path analysis, of the levels of perceived supportive autonomy or feedback and recognition. Apparently, an instructor's perceptions of the work climate characteristics--work challenge and meaning, supportive autonomy, and feedback and recognition--were not affected by her/his length of service at an institution. Also, the results of the correlation analysis revealed that job tenure was not significantly related to any of the attitudinal variables (see Table IV, page 79). Previous research, however, suggested a positive relationship between job tenure and job satisfaction, and a negative relationship between job tenure and job involvement and between job tenure and self-image (Hulin & Smith, 1965; Alderfer, 1967; Hall & Lawler, 1969; Cohen & Brawer, 1977).

According to the results of this investigation, age was not causally related to levels of perceived supportive autonomy or feedback and recognition. As with job tenure, instructors' perceptions of the conditions in their work climate were not affected by age. Correlational analysis (see Table IV, page 79) revealed significant ($p < .05$), but weak, positive relationships between age and each of the following variables: psychological success ($r=.17$); work satisfaction ($r=.19$); and job involvement ($r=.21$). These relationships have been supported by Hulin and Smith (1965), Gibson and Klein (1970), Hall and Mansfield (1975) and Cohen and Brawer (1977).

The levels of perceived supportive autonomy and feedback and recognition in this investigation were also not affected by the participants' level of educational preparation, according to the path

analysis results. Furthermore, correlations between the participants' educational preparation and the attitudinal variables in the study were non-significant.

In the present study, the results of path analysis indicated that educational preparation, age and job tenure did not significantly affect the levels of the work climate characteristics. The true effects of these demographic variables were in all likelihood more complex than as hypothesized in this study. For instance, Herman and Hulin (1972) concluded that the interaction between demographic variables and structural variables, such as task orientation and departmental function, confounded the demographic variable/dependent variable relationship.

Table VI summarizes the results of the hypotheses tested in this study. Work challenge (X_4) had a significant effect on supportive autonomy (X_5) (Hypothesis 10), and supportive autonomy (X_5) had a significant effect on feedback (X_6) (Hypothesis 11), as predicted. However, none of the work climate characteristics had a significant effect on psychological success (X_7), contrary to prediction. The correlation of these variables with psychological success were significant, however (see Table IV, p. 79). Indeed, the results of the regression procedures conducted prior to the path analysis yielded significant results for the relationships of work challenge, supportive autonomy, and feedback to psychological success (see Table V, p. 83). The correlations between each work climate characteristics and the psychological success variable appeared to have overestimated the true effects of these variables.

TABLE VI
RESULTS OF HYPOTHESES TESTS

Hypothesis	Bivariate Relationship	Standardized Path Coefficient	Supported?
1	$X_1 X_4$	*	-
2	$X_1 X_5$	.031	no
3	$X_1 X_6$	-.016	no
4	$X_2 X_4$	*	-
5	$X_2 X_5$	-.021	no
6	$X_2 X_6$	.026	no
7	$X_3 X_4$	*	-
8	$X_3 X_5$	-.050	no
9	$X_3 X_6$	.010	no
10	$X_4 X_5$	.408**	yes
11	$X_5 X_6$	1.109**	yes
12	$X_4 X_7$	.293	no
13	$X_5 X_7$	-5.582	no
14	$X_6 X_7$	5.798	no
15	$X_7 X_8$	.582**	yes
16	$X_8 X_9$	1.441**	yes
17	$X_9 X_{10}$	.482**	yes

*This hypothesis could not be tested using path analysis model formulated in this study.

** $p < .05$

This overestimation may have occurred as a result of the high intercorrelations between the four variables (see Table IV, p. 79). Each of the work climate characteristics had significant correlations with other measures in the model. For instance, work challenge had significant correlations ($p < .05$) with supportive autonomy ($r=.42$), feedback ($r=.45$), psychological success ($r=.66$), self-image ($r=.40$), and work satisfaction ($r=.53$). Supportive autonomy and feedback were highly correlated with each other ($r=.73$). These two measures were likewise significantly correlated with psychological success ($p < .05$), with the correlation between supportive autonomy and psychological success equalling .26 and the correlation between feedback and psychological success equalling .36. The combined effect, as a result of these intercorrelations, may have accounted for a large part of the correlation of each work climate variable with psychological success. These findings represented a good example of the power of path analysis as an analytical tool. Conventional means of analyses would have yielded somewhat different results.

These results partially supported Hall's theory of career development. According to the results of this study, instructors' perceptions of their work as being challenging and as relating to personally valued goals partially determines their level of perceived supportive autonomy (Hypotheses 10). The level of supportive autonomy (that is, how one perceives the level of support, coaching, and independence to achieve work goals that are given) partially determines the level of perceived feedback and recognition one receives from work (Hypothesis 11). These same relationships were posited by Hall (1976). He

contended, however, that these three work climate characteristics--work challenge and meaning, supportive autonomy, and feedback and recognition--had to be present in the environment in order for one to experience the feeling of psychological success. Although, as previously stated, correlational analysis and regression analysis pointed to confirmation of these components in Hall's theory, the path analysis findings in this investigation did not confirm them.

The rest of the postulated relationships in Hall's model of career development received support through the results of this study. The level of perceived psychological success partially determined the level of one's self-image (Hypothesis 15); self-image partially determined the level of work satisfaction (Hypothesis 16); and level of perceived work satisfaction partially determined the level of job involvement (Hypothesis 17).

Implications

The purpose of this research was to formulate and test a structural model of the process of career development and growth for community college instructors. The formulated model was supported for the sample under study, and as such, this investigation helped to fill the void in the research on the process of career development and growth for community college faculty. This study provided a much needed method for the systematic investigation of the forces and experiences that affect the growth of faculty. Furthermore, it shows that Hall's Model of Career Development (1976) can be used as a basis for future investigations into the careers of faculty.

Information from several areas was drawn together in order to test this model of the process of career development and growth for community college instructors. As a result, a statement about the current knowledge in this area was made in the form of a structural model. The results of this investigation can serve as building blocks for future researchers.

In addition to the implications this investigation has for the process of theory construction in education and also for theory construction regarding community college faculty behavior, this study has several other intriguing implications.

Interestingly enough, the results of this investigation did not confirm any causal relationships between the background variables of educational preparation, age, or job tenure and the work climate variables of supportive autonomy and feedback and recognition. These non-significant results provide answers that conflict with current thinking concerning the supposed problem of faculty apathy and non-productivity. These "problems" may not be a function of age or job tenure at all, and, therefore, community college administrators should reconsider their stance concerning their "tenured-in" faculty. Administrators must accept responsibility, instead, for having created work climates in community colleges which are not conducive to faculty productivity. Administrators should look to the climates which their policies and actions have created for the answers to the supposed problems of faculty non-productivity and apathy. Perhaps community college administrators find it easier to lay the blame for faculty discontent on such highly visible factors as age or length of service

rather than upon themselves. The only real problem posed for administrators in having to deal with better educated and more experienced faculty is that these faculty cost the college more in terms of output for salary than younger, less experienced faculty.

The results of this investigation also point out the importance to faculty of the work climate characteristics of perceived work challenge and meaning, supportive autonomy, and feedback and recognition. The degree of perceived work challenge and meaning partially determines the level of perceived supportive autonomy. The level of perceived supportive autonomy partially determines the level of perceived feedback and recognition instructors receive about their performance. These findings reinforce the need to present faculty with meaningful goals to achieve. Also, if faculty are expected to achieve meaningful and challenging goals, they must work be able to in a context which supports, rather than thwarts, their efforts.

Further, these results shed light on some important aspects of the work life of community college faculty. The findings of this study highlight the importance of experiencing psychological success in one's work--that is, the internal feeling of success about one's work. The achievement of psychological success appears to be a key factor in the attainment of positive work attitudes--self-image, work satisfaction, and job involvement. By concentrating efforts to develop ways to increase a faculty member's achievement of this internal feeling of success, college administrators and faculty might

achieve better results in terms of increased job involvement than they have been able to achieve in the past with programs of staff development and faculty evaluation. Considering the present and future economic conditions, focusing on facilitating the faculty's achievement of internal feelings of success may even prove to be more cost-effective in the long run than relying on such external rewards as merit pay increases to provide short-term incentives for faculty commitment to their jobs.

Programs designed for higher education administrators should include more information concerning the career development and growth needs of community college faculty. The information obtained from this study may assist in making future community college administrators aware of, and sensitized to, the positive career attitudes that faculty need to be effect as instructors. The philosophy of administrators toward faculty should reflect a desire to enhance the faculty's opportunities to achieve internal feelings of success about their work. Administrators must realize the importance of nurturing the faculty's need for growth for the long-term survival of the institution.

The Work Experiences Questionnaire, once refined, can be used to facilitate discussion concerning problem areas in the work life of faculty. The WEQ can aid in the identification of unsatisfactory work attitudes and thus can help in the exploration of solutions to the problem. Therefore, the WEQ could be used as a needs assessment tool that provides information for administrative action and perhaps as one source of information for evaluation of administrators.

Perhaps the most important implication of the results of this investigation is that it brings to the importance of attitudes of community college administrators concerning the treatment of faculty. If administrators feel that the older, more experienced, and better educated faculty need to be "developed" and are somehow less committed to their jobs than younger faculty, then a more positive approach toward faculty is recommended. A more positive philosophy towards the treatment of the older, more experienced faculty needs to prevail--one that views these faculty as a wealth of heretofore untapped human resources.

Recommendations for Further Research

As a result of this study, several recommendations for future research are in order. The Work Experiences Questionnaire should be refined to reflect more precisely the work climate characteristics for community college instructors.

The influence of educational preparation, age, and job tenure on the perceived level of work climate characteristics and on work attitudes must be explored more closely. The use of polynomial regression analysis is recommended to determine whether non-linear relationships might exist between these variables. Also, the effect of situational variables, such as the size of the institution, on the relationship among the demographic variables, work climate characteristics, and work attitudes should be examined. The possibility of interactions among these demographic variables should also be investigated in future research studies.

This study should be replicated with faculty of other two-year colleges. The appropriateness of the formulated model for various disciplines within a community college should also be examined. Only through replication and re-formulation will the model of the process of career development tested in this study lead to practical uses of the information which the model can provide. Further analysis using different populations should prove to be enlightening.

More studies in education should use causal modeling techniques and path analysis. The findings of this research would have been different had the investigator relied on correlational analysis or even multiple regression analysis. More research should be conducted which draws together in the form of a structural model current thinking about the problem under study. As a result of testing the proposed model using path analysis, stronger conclusions can be made about the findings.

A question not investigated by this study, but which might be crucial to conclusions about faculty productivity, is the relationship of job involvement to actual performance of faculty. Perhaps faculty can be involved in their jobs for reasons that are not related to performance. However, it still seems reasonable to expect that people who are involved in their work would also want to perform well.

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APPENDIX I
WORK EXPERIENCES QUESTIONNAIRE

WORK EXPERIENCES QUESTIONNAIRE

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WORK EXPERIENCES QUESTIONNAIRE

This questionnaire gives you an opportunity to express anonymously your perceptions of the work experiences of community college instructors. Indicate the response closest to your view by checking the appropriate response.

SECTION 1

Items 1-5. Respond to the following information items. Check one response for each statement.

1. Indicate your major field of teaching:

<input type="checkbox"/> Natural Sciences	<input type="checkbox"/> Health Related
<input type="checkbox"/> Mathematics	<input type="checkbox"/> Trade or Industrial
<input type="checkbox"/> Social Sciences	<input type="checkbox"/> Technical
<input type="checkbox"/> Humanities/English	<input type="checkbox"/> Other _____
<input type="checkbox"/> Business/Computer Science	

2. Indicate your age at last birthday:

<input type="checkbox"/> Under 25	<input type="checkbox"/> 46-50
<input type="checkbox"/> 26-30	<input type="checkbox"/> 51-55
<input type="checkbox"/> 31-35	<input type="checkbox"/> 56-60
<input type="checkbox"/> 36-40	<input type="checkbox"/> Over 60
<input type="checkbox"/> 41-45	

3. Indicate the highest degree held:

<input type="checkbox"/> Less than Bachelor's	<input type="checkbox"/> Doctorate - Ph.D. or
<input type="checkbox"/> Bachelor's	<input type="checkbox"/> Ed.D
<input type="checkbox"/> Master's	<input type="checkbox"/> Other doctoral degree
<input type="checkbox"/> Educational Specialist or comparable advanced degree	

4. Sex

<input type="checkbox"/> Female
<input type="checkbox"/> Male

(continued)

QUESTIONNAIRE (continued)

5. Indicate the number of years on the faculty of this college:

<input type="checkbox"/> Less than one year	<input type="checkbox"/> 16-20 years
<input type="checkbox"/> 1-5 years	<input type="checkbox"/> 21-25 years
<input type="checkbox"/> 6-10 years	<input type="checkbox"/> 26-30 years
<input type="checkbox"/> 11-15 years	<input type="checkbox"/> Over 30 years

SECTION 2

Items 6-54. This section contains statements about various aspects of your work environment. Please describe each characteristic listed in comparison to other community college instructors you know. (This comparison group may include instructors you know from other community colleges.) Check one response for each statement.

BA = Below Average. In comparison to other community college instructors you know, you perceive the presence of this characteristic to be below average in your work environment.

SBA = Somewhat Below Average. In comparison to other community college instructors you know, you perceive the presence of this characteristic to be somewhat below average in your work environment.

A = Average. In comparison to other community college instructors you know, you perceive the presence of this characteristic to be average in your work environment.

SAA = Somewhat Above Average. In comparison to other community college instructors you know, you perceive the presence of this characteristic to be somewhat above average in your work environment.

AA = Above Average. In comparison to other community college instructors you know, you perceive the presence of this characteristic to be above average in your work environment.

	BA	SBA	A	SAA	AA
--	----	-----	---	-----	----

6. The amount of responsibility in your work.....	—	—	—	—	—
7. The amount of recognition you get of your accomplishments by your colleagues.....	—	—	—	—	—
8. The amount of challenge in your duties.....	—	—	—	—	—

(continued)

QUESTIONNAIRE (continued)

	BA	SBA	A	SAA	AA
9. The opportunity to express ideas to your chairperson (or supervisor).....	—	—	—	—	—
10. The willingness of your chairperson (or supervisor) to accept your ideas....	—	—	—	—	—
11. The feeling of contributing to decision-making.....	—	—	—	—	—
12. The competence of your chairperson (or supervisor) to give leadership.....	—	—	—	—	—
13. The amount of discussion of your work goals with your chairperson (or supervisor).....	—	—	—	—	—
14. The amount of friendship between you and your chairperson (or supervisor)....	—	—	—	—	—
15. The extent to which you are able objectively to evaluate your accomplishments.....	—	—	—	—	—
16. The amount of authority you have to get your job done.....	—	—	—	—	—
17. The actual attainment of your own work-related goals.....	—	—	—	—	—
18. Your respect for your chairperson (or supervisor) as a person.....	—	—	—	—	—
19. The extent to which you use student ratings as feedback to improve your performance.....	—	—	—	—	—
20. The congeniality of the atmosphere in your department or division.....	—	—	—	—	—
21. The amount of authoritarian control exercised over you by your chairperson (or supervisor).....	—	—	—	—	—
22. The amount of recognition you get from the administration for your ideas.....	—	—	—	—	—
23. The amount of personal interest in you shown by your chairperson (or supervisor).....	—	—	—	—	—
24. The amount of publicity given your work and activities.....	—	—	—	—	—
25. The amount of constructive criticism about your performance.....	—	—	—	—	—
26. The extent of interesting and challenging aspects to your teaching....	—	—	—	—	—
27. The feeling of being treated as an equal by your chairperson (or supervisor).....	—	—	—	—	—
28. The extent of counsel and guidance provided by your chairperson (or supervisor) concerning your work goals..	—	—	—	—	—
29. The amount of meaning in your work.....	—	—	—	—	—

(continued)

QUESTIONNAIRE (continued)

	BA	SBA	A	SAA	AA
30. The willingness of your chairperson to delegate authority.....	—	—	—	—	—
31. The opportunity to attend professional conferences, workshops, etc., that are relevant to your work goals.....	—	—	—	—	—
32. The extent to which you are informed about policy matters affecting you.....	—	—	—	—	—
33. The amount of discussion between you and your chairperson (or supervisor) on issues of importance, aside from work.....	—	—	—	—	—
34. Your workload as an instructor.....	—	—	—	—	—
35. The feeling of being accepted by other instructors on campus.....	—	—	—	—	—
36. The amount of your actual participation in professional development activities that are relevant to your work goals...	—	—	—	—	—
37. The opportunity to conduct research related to teaching.....	—	—	—	—	—
38. The feeling of confidence about your work.....	—	—	—	—	—
39. The degree of sensitivity of your chairperson or supervisor) to your needs.....	—	—	—	—	—
40. The opportunity to work toward your own professional goals.....	—	—	—	—	—
41. The extent to which you observe students' growth and success over a period of time as a means of improving your own performance.....	—	—	—	—	—
42. The extent of feedback received on your teaching effectiveness.....	—	—	—	—	—
43. The opportunity to observe immediate results from your work.....	—	—	—	—	—
44. The amount of constructive leadership provided by your chairperson (or supervisor).....	—	—	—	—	—
45. The opportunity to see the adoption of practices which you have recommended...	—	—	—	—	—
46. The opportunity to exercise initiative.	—	—	—	—	—
47. The amount of challenge in working with college-age students.....	—	—	—	—	—
48. The encouragement to exercise initiative.....	—	—	—	—	—
49. The amount of initiative actively exercised by you.....	—	—	—	—	—
50. Current faculty evaluation procedures as a method of performance improvement.	—	—	—	—	—

(continued)

QUESTIONNAIRE (continued)

BA SBA A SAA AA

51. The opportunity to get to know the students in your classes..... — — — — —

52. The amount of recognition you get of your accomplishments from your chairperson (or supervisor)..... — — — — —

53. The amount of direction provided by your chairperson (or supervisor) to improve your future performance..... — — — — —

54. The amount of task structure provided by your chairperson (or supervisor).... — — — — —

SECTION 3

Items 55-68. This section contains statements about various attitudes you may have of your work. Mark one response for each statement.

SD = Strongly Disagree. Your strongly disagree with the statement as it applies to your work.

D = Disagree. You disagree more than you agree with the statement as it applies to your work.

U = Undecided. You are undecided as to whether the statement applies to your work.

A = Agree. You agree more than you disagree with statement as it applies to your work.

SA = Strongly Agree. You strongly agree with the statement as it applies to your work.

SD D U A SA

55. I feel I am accomplishing something worthwhile through my work..... — — — — —

56. I feel I am doing very high quality work..... — — — — —

57. My work gives me a feeling of self-fulfillment..... — — — — —

58. I feel my work provides opportunities for personal growth and development.... — — — — —

59. I feel I have done my job well..... — — — — —

60. My work requires me to use all my abilities..... — — — — —

61. I feel I am accomplishing a lot through my work..... — — — — —

(continued)

QUESTIONNAIRE (continued)

SD D U A SA

62. The major satisfaction in my life comes from my job.....

63. I live, eat and breathe my job.....

64. The most important things that happen to me involve my work.....

65. I am very much involved personally in my work.....

66. Teaching is an important part of my life.....

67. Most things in life are more important than work.....

68. I'm really a perfectionist about my work.....

SECTION 4

Items 69-96. This section contains adjective pairs used by many people in describing themselves. Each characteristic is represented graphically by a scale. Please describe the way you perceive yourself most generally--as a total person. Indicate the location on the scale where you picture yourself by a check (✓). The scale runs continuously from one labeled extreme to the other with varying degrees being indicated by the lines. Please place your check marks over the lines, not over the colons: For example, if you see yourself as being relatively informal, you might place a check mark as below:

FORMAL : : : : ✓ : : INFORMAL

69. ENTHUSIASTIC	.....	.....	.....	.....	.....	.....	UNENTHUSIASTIC
70. INSINCERE	.....	.....	.....	.....	.....	.....	SINCERE
71. UNCREATIVE	.....	.....	.....	.....	.....	.....	CREATIVE
72. KIND	.....	.....	.....	.....	.....	.....	UNKIND
73. PASSIVE	.....	.....	.....	.....	.....	.....	ACTIVE
74. INFORMAL	.....	.....	.....	.....	.....	.....	FORMAL
75. NOT HELPFUL	.....	.....	.....	.....	.....	.....	HELPFUL
76. SENSITIVE	.....	.....	.....	.....	.....	.....	INSENSITIVE
77. UNAGGRESSIVE	.....	.....	.....	.....	.....	.....	AGGRESSIVE
78. TRUSING	.....	.....	.....	.....	.....	.....	SUSPICIOUS
79. NOT OBEDIENT	.....	.....	.....	.....	.....	.....	OBEDIENT
80. MUDDLED THINKING	.....	.....	.....	.....	.....	.....	CLEAR THINKING
81. FRIENDLY	.....	.....	.....	.....	.....	.....	UNFRIENDLY
82. BRIGHT	.....	.....	.....	.....	.....	.....	DULL
83. NOT WILLING TO CHANGE	.....	.....	.....	.....	.....	.....	WILLING TO CHANGE
84. WARM	.....	.....	.....	.....	.....	.....	COLD
85. NOT CONCERNED ABOUT PEOPLE	.....	.....	.....	.....	.....	.....	CONCERNED ABOUT PEOPLE

(continued)

QUESTIONNAIRE (continued)

86. KNOWLEDGEABLE	_____	_____	_____	_____	_____	_____	_____	UNINFORMED
87. COOPERATIVE	_____	_____	_____	_____	_____	_____	_____	UNCOOPERATIVE
88. INDUSTRIOUS	_____	_____	_____	_____	_____	_____	_____	LAZY
89. APPROACHABLE	_____	_____	_____	_____	_____	_____	_____	UNAPPROACHABLE
90. CONSIDERATE	_____	_____	_____	_____	_____	_____	_____	INCONSIDERATE
91. AVAILABLE	_____	_____	_____	_____	_____	_____	_____	UNAVAILABLE
92. UNCOMMITTED	_____	_____	_____	_____	_____	_____	_____	COMMITTED
93. DEDICATED	_____	_____	_____	_____	_____	_____	_____	NOT DEDICATED
94. INVOLVED	_____	_____	_____	_____	_____	_____	_____	UNINVOLVED
95. DOES NOT EXPRESS EMOTIONS	_____	_____	_____	_____	_____	_____	_____	EXPRESSES EMOTIONS
96. INTELLECTUAL	_____	_____	_____	_____	_____	_____	_____	NOT INTELLECTUAL

SECTION 5.

Items 97-114. The work satisfaction section of the Job Descriptive Index may be found in P. C. Smith, P. Kendall, & L. M. Hulin. The measurement of satisfaction in work and retirement: A strategy for the study of attitudes. Chicago: Rand McNally, 1969.

IMPORTANT INSTRUCTIONS

Thank you for taking time to complete this questionnaire. Fold your completed survey form in half and place it in the enclosed envelope addressed to the University of Florida. We appreciate your prompt attention and participation in this important educational survey.

APPENDIX II
ITEM ANALYSIS OF WORK EXPERIENCES QUESTIONNAIRE

ITEM ANALYSIS OF WORK EXPERIENCES QUESTIONNAIRE

A pilot study was conducted to determine the suitability of the format of the Work Experiences Questionnaire and to provide data for an analysis of the items in the work climate section. The goal of the item analysis was to construct three scales, which were as clear as possible, to measure the job characteristics of work challenge and meaning, supportive autonomy, and feedback and recognition. Except for certain questions written by the researcher, all items in the WEQ had been used previously by Douglas T. Hall. The analysis of the responses based on demographic information is given in Table VII. The mean and standard deviation for items 6-114 were then computed. The means and standard deviations for each of the items (excluding demographic items) of the preliminary WEQ are described in Table VIII. The means for the work climate items (Section 2) ranged from 2.6 to 4.1, and the range for the standard deviations was from .83 to 1.3. The means for the psychological success responses ranged from 3.56 to 4.48 with standard deviations of from .6 to 1.19. The job involvement items had means of from 2.24 to 4.25 and standard deviations of from .66 to 1.2. The self-image items had means of 4.87 to 6.5, and standard deviations of .73 to 1.48. The means for the work satisfaction items ranged from .4 to 2.9, and the standard

TABLE VII
FREQUENCY AND PERCENTAGE DISTRIBUTIONS FOR
DEMOGRAPHIC ITEMS BASED ON PILOT STUDY DATA

Major Field of Teaching	Frequency	Percent
Natural Sciences	22	7.8
Mathematics	25	8.8
Social Sciences	37	13.1
Humanities	43	15.2
Business	36	12.7
Health-Related	57	20.1
Trade	35	12.3
Public Service	4	1.4
Other	24	8.4

Age	Frequency	Percent
25 & under	1	
26-30	14	4.9
31-35	31	11.0
36-40	33	11.7
41-45	39	13.8
46-50	37	13.1
51-55	44	15.5
56-60	42	14.8
Over 60	42	14.8

Highest Degree Held	Frequency	Percent
Less than Bachelor's	17	6.0
Bachelor's	32	11.3
Master's	173	61.1
Educational Specialist's	23	8.1
Doctorate	33	11.7
Other	5	1.8

Sex	Frequency	Percent
Female	119	42.0
Male	164	57.9

(Continued)

TABLE VII--CONTINUED

Job Tenure at this College	Frequency	Percent
Less than 1 year	18	6.3
1-5 years	75	26.5
6-10 years	40	14.1
11-15 years	66	23.3
16-20 years	62	21.9
21-25 years	16	5.7
26-30 years	5	1.8
Over 30 years	1	.4

TABLE VIII
MEANS AND STANDARD DEVIATIONS FOR
ITEMS 6-114 BASED ON PILOT STUDY DATA

Item	\bar{X}	SD
6	3.832	0.933
7	3.228	0.964
8	3.714	0.956
9	3.917	1.187
10	3.660	1.273
11	3.135	1.339
12	3.514	1.338
13	3.285	1.216
14	3.657	1.128
15	3.635	0.839
16	3.846	0.966
17	.3746	0.852
18	3.903	1.236
19	3.603	0.959
20	3.678	1.192
21	3.407	1.125
22	3.596	1.093
23	3.371	1.196
24	2.632	1.108
25	2.882	1.038
26	3.792	0.954
27	3.567	1.259
28	3.085	1.1577
29	3.914	0.923
30	3.428	1.227
31	3.460	1.223
32	3.082	1.210
33	3.096	1.227
34	3.728	0.902
35	3.717	0.848
36	3.175	1.081
37	2.671	1.197
38	4.103	0.846
39	3.503	1.235
40	3.692	0.971
41	3.803	0.834
42	3.025	1.111
43	3.535	0.911
44	3.146	1.222
45	3.117	1.066

(Continued)

TABLE VIII--CONTINUED

Item	\bar{X}	SD
46	3.578	1.142
47	3.928	0.881
48	3.410	1.188
49	3.803	0.892
50	2.571	1.051
51	3.982	0.989
52	3.325	1.160
53	3.003	1.115
54	2.770	1.002
55	4.485	0.633
56	4.332	0.672
57	4.332	0.738
58	4.103	0.896
59	4.435	0.607
60	3.567	1.198
61	4.071	0.830
62	3.110	1.243
63	2.242	1.125
64	2.478	1.067
65	3.953	0.888
66	4.253	0.663
67	3.607	0.981
68	3.414	1.080
69	5.942	1.042
70	6.546	0.738
71	5.614	1.239
72	5.814	1.486
73	5.560	1.329
74	5.007	1.531
75	6.342	0.801
76	5.757	1.544
77	4.875	1.328
78	5.342	1.433
79	5.342	1.251
80	5.910	0.970
81	6.178	1.062
82	5.996	1.089
83	5.728	1.131
84	5.892	1.293
85	6.250	1.215

(Continued)

TABLE VIII--CONTINUED

Item	\bar{X}	SD
86	6.050	1.083
87	6.132	1.057
88	6.092	0.979
89	6.210	0.852
90	6.303	0.810
91	6.150	0.837
92	5.735	1.355
93	5.821	1.332
94	5.692	1.277
95	5.096	1.522
96	5.803	1.023
97	2.150	1.261
98	2.010	1.337
99	2.653	0.870
100	2.785	0.701
101	2.875	0.517
102	2.453	1.053
103	2.535	0.964
104	1.400	1.035
105	2.621	0.875
106	2.910	0.451
107	2.260	1.218
108	1.750	1.198
109	2.596	0.967
110	0.400	0.894
111	1.560	1.376
112	2.575	0.947
113	1.314	1.381
114	2.784	0.702

deviations were from .45 to 1.38. Each section has sufficient variability in their responses as indicated by the standard deviations.

Analysis of the items in the work climate section of the WEQ was conducted in comparison to the a priori dimensions specification. This a priori designation of the items in the work climate section is presented in Table IX. Items 6, 8, 26, 29, 34, 35, 38, 47, 49, and 51 were written to measure work challenge and meaning; items 9, 10, 11, 12, 13, 14, 16, 18, 20, 21, 23, 27, 28, 30, 31, 32, 33, 36, 39, 40, 44, 46, 48, 53, and 54 were written to measure supportive autonomy; items 7, 15, 17, 19, 24, 25, 37, 41, 42, 43, 45, 50, and 52 were written to measure feedback and recognition.

Intercorrelations were computed between all work climate items. The intercorrelation matrix is presented in Table X. A three-factor principal-components analysis was conducted. Both the orthogonal and oblique solutions were examined. Even though the a priori dimensionality proposed by Hall called for a 3-factor solution, three clearly defined factors were not obtained. A four-factor solution was conducted. Neither rotation method yielded clear dimensions among the items.

The five-factor solution was examined. Because the researcher was striving for relatively independent scales, a decision was made to examine only the orthogonal rotation. The factor loadings for the highest loading items on each factor is presented in Table XI. Most of the items that loaded highly on the first factor were considered a priori to be supportive autonomy items. However, three a priori "feedback" items (items 25, 42, and 52) also loaded on this factor. Twelve items loaded highly on the second factor. Seven items (items

TABLE IX
A PRIORI DESIGNATION OF ITEMS IN WORK CLIMATE SECTION

Item #	Work Challenge	Supportive Autonomy	Feedback
6	X		
7			X
8	X		
9		X	
10		X	
11		X	
12		X	
13		X	
14		X	
15			X
16		X	
17		X	X
18			X
19			X
20		X	
21		X	
22			X
23		X	
24			X
25			X
26	X		
27		X	
28		X	
29	X		
30		X	
31		X	
32		X	
33		X	
34	X		
35	X		
36		X	
37			X
38	X		
39		X	
40		X	
41			X
42			X
43			X
44		X	
45			X

(Continued)

TABLE IX--CONTINUED

Item #	Work Challenge	Supportive Autonomy	Feedback
46			
47	X	X	
48			
49	X	X	
50			X
51	X		
52			X
53		X	
54		X	

TABLE X

INTERCORRELATION MATRIX FOR ITEMS IN WORK CLIMATE SECTION BASED ON PILOT STUDY DATA

Item	6	7	8	9	10	11	12	13	14	15
6	.294	.429	.164	.169	.218	.116	.181	.186	.177	.177
7		.299	.375	.374	.395	.295	.432	.308	.272	
8			.225	.294	.365	.190	.225	.213	.203	
9				.814	.580	.689	.676	.618	.355	
10					.681	.732	.690	.646	.300	
11						.524	.594	.473	.350	
12							.731	.598	.263	
13								.662	.380	
14									.327	
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										

(Continued)

TABLE X--CONTINUED

Item	16	17	18	19	20	21	22	23	24	25
6	.265	.184	.157	.019	.138	.066	.247	.191	.198	.165
7	.393	.333	.305	.038	.354	.120	.474	.378	.425	.346
8	.220	.270	.184	.123	.264	.035	.270	.228	.259	.309
9	.446	.384	.711	.012	.595	.358	.334	.657	.332	.528
10	.440	.367	.696	.001	.581	.370	.406	.693	.378	.545
11	.460	.411	.470	.005	.499	.311	.474	.538	.393	.484
12	.432	.308	.763	.016	.565	.243	.356	.625	.394	.555
13	.453	.320	.719	.074	.568	.248	.405	.706	.417	.583
14	.436	.283	.283	.055	.551	.338	.294	.676	.278	.476
15	.428	.401	.264	.100	.317	.153	.219	.263	.225	.311
16	.517	.438	.438	.006	.461	.325	.351	.387	.347	.270
17	.233	.051	.051	.386	.146	.329	.305	.290	.252	
18				.009	.584	.372	.278	.728	.322	.513
19					.034	.121	.068	.031	.065	.007
20						.286	.333	.555	.424	.419
21							.022	.340	.051	.074
22								.377	.571	.400
23									.507	
24									.423	
25										.453

(Continued)

TABLE X--CONTINUED

Item	26	27	28	29	30	31	32	33	34	35
6	.277	.157	.214	.324	.216	.059	.146	.178	.350	.161
7	.270	.365	.393	.254	.314	.309	.299	.316	.139	.341
8	.599	.238	.296	.511	.251	.236	.225	.198	.265	.271
9	.240	.712	.607	.231	.603	.426	.462	.626	.074	.178
10	.308	.778	.598	.271	.634	.469	.471	.604	.007	.162
11	.387	.575	.535	.307	.530	.493	.571	.468	.120	.182
12	.221	.658	.653	.180	.612	.453	.472	.589	.009	.096
13	.241	.676	.693	.237	.582	.468	.451	.686	.104	.112
14	.245	.669	.559	.215	.494	.379	.359	.660	.042	.169
15	.293	.335	.348	.317	.251	.258	.174	.337	.079	.317
16	.350	.499	.410	.310	.433	.342	.289	.303	.032	.244
17	.465	.376	.296	.421	.358	.330	.325	.228	.112	.305
18	.177	.722	.636	.173	.555	.376	.427	.663	.060	.069
19	.063	.036	.080	.142	.024	.061	.052	.014	.122	.052
20	.314	.578	.527	.288	.520	.405	.379	.491	.068	.236
21	.071	.443	.198	.035	.303	.150	.143	.256	.056	.028
22	.326	.352	.357	.286	.351	.327	.432	.268	.148	.257
23	.213	.758	.601	.211	.545	.414	.445	.657	.131	.128
24	.289	.404	.432	.256	.333	.349	.388	.333	.155	.241
25	.485	.485	.704	.212	.431	.400	.396	.549	.074	.163

(Continued)

TABLE X--CONTINUED

Item	26	27	28	29	30	31	32	33	34	35
26										
27	.319	.228	.613	.264	.279	.262	.171	.121	.330	
28		.631	.280	.652	.478	.424	.628	.055	.200	
29			.169	.590	.381	.422	.622	.142	.162	
30				.239	.264	.227	.167	.209	.289	
31					.431	.438	.528	.131	.183	
32						.521	.459	.095	.241	
33							.473	.089	.186	
34								.102	.143	
35									.189	
36										
37										
38										
39										
40										
41										
42										
43										
44										
45										

(Continued)

TABLE X--CONTINUED

Item	36	37	38	39	40	41	42	43	44	45
6	.226	.119	.226	.116	.211	.265	.188	.314	.182	.282
7	.112	.169	.264	.348	.348	.102	.430	.244	.409	.436
8	.305	.237	.234	.171	.280	.222	.258	.342	.300	.353
9	.145	.164	.205	.721	.420	.144	.540	.189	.676	.535
10	.201	.264	.199	.757	.470	.112	.586	.201	.697	.575
11	.352	.279	.243	.599	.474	.131	.539	.262	.564	.626
12	.139	.173	.173	.757	.374	.108	.604	.170	.795	.503
13	.197	.209	.184	.734	.422	.157	.630	.246	.762	.523
14	.145	.258	.287	.660	.389	.109	.520	.155	.613	.461
15	.268	.259	.344	.339	.411	.188	.354	.255	.311	.266
16	.174	.194	.328	.451	.471	.161	.415	.245	.467	.465
17	.253	.249	.352	.356	.561	.227	.323	.309	.357	.380
18	.090	.146	.191	.761	.320	.124	.521	.112	.717	.479
19	.113	.058	.089	.049	.053	.246	.064	.155	.008	.030
20	.144	.239	.308	.569	.449	.091	.459	.237	.510	.479
21	.052	.128	.137	.407	.237	.005	.177	.050	.272	.230
22	.278	.395	.232	.336	.347	.173	.454	.301	.407	.510
23	.133	.266	.259	.797	.414	.123	.550	.218	.694	.539
24	.301	.329	.184	.407	.354	.179	.482	.393	.443	.458
25	.230	.265	.143	.555	.358	.206	.642	.293	.617	.480

(Continued)

TABLE X--CONTINUED

Item	36	37	38	39	40	41	42	43	44	45
26	.303	.297	.392	.236	.415	.230	.301	.376	.257	.352
27	.201	.243	.301	.787	.452	.140	.571	.155	.713	.592
28	.172	.184	.155	.694	.357	.242	.686	.279	.735	.564
29	.301	.270	.455	.195	.420	.360	.221	.407	.240	.360
30	.216	.289	.247	.675	.402	.219	.498	.225	.659	.531
31	.350	.335	.220	.477	.465	.122	.429	.166	.488	.463
32	.305	.246	.188	.506	.375	.090	.449	.236	.516	.518
33	.193	.234	.257	.683	.350	.174	.559	.221	.673	.489
34	.250	.025	.110	.106	.009	.231	.169	.160	.123	.142
35	.334	.266	.392	.165	.315	.205	.194	.257	.153	.268
36	.353	.283	.167	.325	.325	.186	.247	.262	.243	.416
37	.307	.233	.247	.396	.112	.319	.302	.220	.378	
38				.440	.279	.250	.388	.205	.346	
39				.476	.176	.661	.205	.796	.594	
40					.235	.425	.410	.447	.483	
41						.333	.449	.219	.209	
42							.313	.679	.594	
43								.343	.343	
44									.614	
45										

(Continued)

TABLE X--CONTINUED

Item	46	47	48	49	50	51	52	53	54
6	.292	.219	.305	.300	.056	.145	.187	.186	.076
7	.424	.156	.382	.180	.220	.047	.422	.421	.371
8	.360	.417	.339	.397	.189	.145	.284	.260	.131
9	.499	.118	.558	.162	.182	.091	.646	.641	.465
10	.569	.131	.632	.229	.233	.043	.720	.682	.473
11	.640	.141	.634	.289	.332	.056	.605	.565	.427
12	.502	.132	.582	.155	.282	.016	.675	.729	.590
13	.482	.074	.576	.227	.300	.014	.713	.736	.617
14	.379	.096	.481	.191	.207	.084	.636	.567	.447
15	.378	.223	.334	.239	.199	.161	.322	.323	.268
16	.547	.178	.519	.251	.172	.193	.497	.378	.279
17	.455	.298	.479	.360	.230	.204	.380	.322	.290
18	.462	.122	.541	.149	.179	.021	.672	.648	.512
19	.000	.083	.010	.124	.127	.120	.008	.004	.006
20	.541	.229	.558	.279	.259	.043	.544	.509	.388
21	.318	.054	.358	.099	.022	.059	.342	.196	.023
22	.472	.180	.530	.240	.398	.146	.427	.452	.383
23	.501	.084	.601	.206	.207	.019	.723	.652	.492
24	.487	.185	.555	.171	.297	.116	.472	.448	.395
25	.458	.208	.489	.228	.327	.067	.594	.662	.574

(Continued)

TABLE X--CONTINUED

Item	46	47	48	49	50	51	52	53	54
26	.361	.508	.428	.415	.248	.252	.307	.263	.208
27	.598	.161	.653	.221	.270	.056	.721	.644	.495
28	.524	.142	.560	.198	.329	.071	.652	.746	.530
29	.381	.504	.389	.411	.256	.267	.238	.249	.163
30	.533	.177	.585	.201	.311	.106	.585	.529	.463
31	.458	.196	.473	.246	.304	.124	.507	.464	.420
32	.472	.142	.545	.175	.251	.077	.472	.502	.413
33	.440	.097	.519	.156	.259	.016	.597	.651	.538
34	.129	.188	.142	.193	.095	.087	.085	.132	.077
35	.258	.321	.226	.163	.050	.256	.186	.159	.091
36	.288	.249	.325	.344	.262	.191	.176	.166	.143
37	.322	.151	.414	.275	.339	.174	.311	.219	.226
38	.399	.317	.378	.289	.115	.338	.246	.201	.174
39	.581	.119	.670	.157	.264	.071	.759	.731	.569
40	.541	.308	.539	.387	.247	.249	.470	.442	.325
41	.257	.384	.281	.333	.137	.439	.200	.236	.132
42	.543	.200	.605	.241	.402	.126	.653	.719	.591
45	.349	.349	.408	.335	.151	.335	.289	.279	.170
44	.575	.198	.654	.260	.314	.059	.731	.786	.656
45	.734	.203	.687	.360	.378	.153	.554	.573	.423

(Continued)

TABLE X--CONTINUED

TABLE XI

HIGHEST FACTOR LOADINGS OF WORK CLIMATE SECTION ITEMS AS A RESULT OF FIVE-FACTOR PRINCIPAL-COMPONENTS ANALYSIS (ORTHOGONAL ROTATION) BASED ON PILOT STUDY DATA

Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Community Estimates
9	.9	.80				.55
10	.80					.74
11	.56					.64
12	.83					.72
13	.83					.74
14	.75					.62
16	.45					.50
18	.87					.77
20	.61					.52
23	.80					.69
25	.62					.60
27	.81					.76
28	.77					.71
30	.66					.54
32	.45					.46
33	.77					.62
39	.88					.82
42	.66					.68
44	.83					.79
45	.52					.64
46	.50					.64
48	.59					.71
52	.79					.72
53	.80					.77
54	.62					.60

(Continued)

TABLE XI--CONTINUED

Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Community Estimates
15		.48				.34
17		.58				.47
26		.57				.54
29		.60				.56
35		.50				.30
38		.68				.50
40		.62				.61
43		.46				.48
47		.54				.47
49		.45				.38
51		.57				.48
22			.65			.57
24			.56			.50
36			.45			.37
37			.53			.46
50			.59			.41
6				.70		.55
8				.66		.60
34				.64		.45
19					.45	.22
41					.60	.61

15, 26, 29, 35, 38, 47, 49, and 50) were considered work challenge items; three (15, 17, and 43) were feedback items, and two (16 and 40) were supportive autonomy items. The third factor contained seven high loadings. Five items (items 22, 24, 37, 45, and 50) were considered feedback items and two (items 32 and 36) were considered supportive autonomy items. One of the "feedback" items and one of the supportive autonomy items also loaded highly on the first factor. The fourth factor contained three items (items 6, 8, and 34) considered to assess work challenge, and the fifth factor contained two items (items 19 and 41) considered to be feedback items.

Those items which did not load on any factor (7, 21, and 31) and the three items that loaded on two factors (16, 32, and 45) were withdrawn from analysis. The remaining items were reanalyzed. The three-, four-, and five-factor analyses yielded basically the same pattern as the previous factor analyses, with some confounding of items across factors and a differentiation of the work challenge and feedback items between two factors in the five-factor solution. The items with highest loadings and their communality estimates are described in Table XII. Items 36 and 49 did not load highly on any factor.

Item-total correlations and reliability estimates of the selected items were used as another means of item analysis. Various combinations of the items were developed based on the factor analyses previously conducted. First, scales based on the highest loading items for each factor were constructed. The item-total correlations and the alpha coefficient for these scales are listed in Table XIII. Next for

TABLE XII

HIGHEST FACTOR LOADINGS OF SELECTED ITEMS IN WORK CLIMATE SECTION AS A RESULT OF FIVE-FACTOR PRINCIPAL-COMPONENTS ANALYSIS (ORTHOGONAL ROTATION) BASED ON PILOT STUDY DATA

Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Community Estimates
9	.81					.71
10	.81					.76
11	.58					.62
12	.83					.72
13	.83					.74
14	.75					.63
18	.86					.76
20	.62					.54
23	.81					.70
25	.63					.58
27	.81					.75
28	.77					.71
30	.67					.53
33	.77					.62
39	.88					.82
42	.66					.70
44	.84					.79
46	.51					.61
48						.71
52						.72
53	.80					.76
54						.56
15						.35
17						.48
26						.60

(continued)

TABLE XII--CONTINUED

Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Community Estimates
29		.59				.59
35		.54				.34
38		.70				.37
40		.64				.61
43		.47				.49
47		.50				.48
51		.49				.54
22			.64			.56
24			.57			.51
37			.55			.51
50			.67			.50
6				.68		.50
8				.70		.64
29				.45		.59
34				.63		.49
19					.49	.29
41					.70	.65

TABLE XIII

ITEM-TOTAL CORRELATIONS AND RELIABILITY ESTIMATES FOR CONSTRUCTED VARIABLE SCALES OF HIGHEST LOADINGS OF FIVE-FACTOR PRINCIPAL-COMPONENTS ANALYSIS OF SELECTED WORK CLIMATE ITEMS BASED ON PILOT STUDY DATA

Variable	Item	Corrected Item - Total Correlation	Coefficient Alpha
Factor 1	9	.795	.971
	10	.836	
	11	.689	
	12	.815	
	13	.833	
	14	.726	
	18	.802	
	20	.665	
	23	.799	
	25	.688	
	27	.828	
	28	.785	
	30	.709	
	33	.745	
	39	.879	
	42	.739	
	44	.863	
	46	.665	
	48	.749	
	52	.831	
	53	.830	
	54	.655	
Factor 2	15	.456	.844
	17	.569	
	26	.630	
	29	.639	
	35	.467	
	38	.589	
	40	.604	
	43	.527	
	47	.545	
	51	.401	
Factor 3	22	.613	.716
	24	.521	
	37	.452	
	50	.438	

(Continued)

TABLE XIII--CONTINUED

Variable	Item	Corrected Item - Total Correlation	Coefficient Alpha
Factor 4	6	.495	.682
	8	.554	
	29	.466	
	34	.351	
Factor 5	19	.209	.512
	41	.459	
	51	.339	

factors 1, 2, and 5, items which were confounding on these factors were deleted; and item-total correlations for the remaining items were calculated. These results are described in Table XIV. Then three scales were developed which contained all the a priori determined items for each climate variable across all factors. See Table XV for these results.

The factor structure obtained as a result of the principal-components analysis was not the ultimate deciding criterion for assigning items to each scale. Rather, the item-total correlations, along with the factor loadings and communality estimates were used to make decisions on which items to retain for the scales to be used in the final analysis. The three feedback items (items 25, 42, and 52) that loaded on the first factor were eliminated. Items 19 and 41 were eliminated because of their low item-total correlation when compared with other feedback items. Items 36 and 49 were eliminated because they did not load on any factors. Items 34 and 51 were eliminated from the work challenge scale because of low item-total correlations. Items 15, 17, 40, and 43 were eliminated because they loaded on a work challenge factor. The items that were chosen to make up the work challenge, supportive autonomy, and feedback scales appear in Table XVI. The item-total correlations and reliability estimates for these scales were described in Table I in the main body of this report, along with their means and standard deviations.

TABLE XIV

ITEM-TOTAL CORRELATIONS AND RELIABILITY ESTIMATES FOR CONSTRUCTED VARIABLE SCALES OF HIGHEST LOADINGS OF FIVE-FACTOR PRINCIPAL-COMPONENTS ANALYSIS AFTER ELIMINATING CONFOUNDING ITEMS BASED ON PILOT STUDY DATA

Variable	Item	Corrected Item - Total Correlation	Coefficient Alpha
Factor 1	9	.800	.967
Supportive Autonomy Only	10	.836	
	11	.683	
	12	.816	
	13	.833	
	14	.730	
	18	.813	
	20	.669	
	23	.805	
	27	.832	
	28	.877	
	33	.746	
	39	.878	
	44	.857	
	46	.657	
	48	.741	
	53	.819	
	54	.642	
Factor 2	26	.609	.801
Work Challenge Only	29	.627	
	35	.436	
	38	.558	
	43	.510	
	47	.578	
	51	.423	
Factor 5	19	.246	.392
Feedback Only	41	.246	

TABLE XV

ITEM-TOTAL CORRELATIONS AND RELIABILITY ESTIMATES FOR CONSTRUCTED VARIABLE SCALES OF A PRIORI DESIGNATION OF SELECTED WORK CLIMATE ITEMS BASED ON PILOT STUDY DATA

Variable	Item	Corrected Item - Total Correlation	Coefficient Alpha
A priori	9	.801	.965
Supportive Autonomy	10	.843	
	11	.691	
	12	.811	
	13	.825	
	14	.727	
	18	.802	
	20	.675	
	23	.801	
	27	.836	
	30	.713	
	33	.738	
	39	.879	
	40	.536	
	44	.853	
	46	.671	
	48	.753	
	53	.805	
	54	.637	
A priori	6	.420	.799
Work Challenge	8	.584	
	26	.633	
	29	.651	
	34	.292	
	35	.433	
	38	.492	
	47	.573	
	51	.353	
A priori	15	.423	.819
Feedback	17	.451	
	19	.111	
	22	.596	
	24	.583	
	25	.598	
	37	.443	
	41	.321	
	42	.703	
	50	.465	
	52	.629	

TABLE XVI

ITEMS CHOSEN FOR CONSTRUCTED VARIABLE SCALES OF
WORK CHALLENGE, SUPPORTIVE AUTONOMY, AND FEEDBACK

Work Challenge

6. The amount of responsibility in your work.
8. The amount of challenge in your work.
26. The extent of interesting and challenging aspects to your teaching.
29. The amount of meaning in your work.
35. The feeling of being accepted by other instructors on your campus.
38. The feeling of confidence about your work.
47. The amount of challenge in working with college-age students.

Supportive Autonomy

9. The opportunity to express ideas to your chairperson (or supervisor).
10. The willingness of your chairperson (or supervisor) to accept your ideas.
11. The feeling of contributing to decision-making.
12. The competence of your chairperson (or supervisor) to give leadership.
13. The amount of discussion of your work goals with your chairperson (or supervisor).
14. The amount of friendship between you and your chairperson (or supervisor).
20. The congeniality of the atmosphere in your department or division.
23. The amount of personal interest in you shown by your chairperson (or supervisor).

TABLE XVI--CONTINUED

33. The amount of discussion between you and your chairperson (or supervisor) on issues of importance, aside from work.
39. The degree of sensitivity of your chairperson (or supervisor) to your needs.
44. The amount of constructive leadership provided by your chairperson (or supervisor).
46. The opportunity to exercise initiative.
48. The encouragement to exercise initiative.
53. The amount of direction provided by your chairperson (or supervisor) to improve your future performance.
54. The amount of task structure provided by your chairperson (or supervisor).

Feedback

22. The amount of recognition you get from the administration for your ideas.
24. The amount of publicity given your work and activities.
25. The amount of constructive criticism about your performance.
37. The opportunity to conduct research related to teaching.
42. The extent of feedback received on your teaching effectiveness.
50. Current faculty evaluation procedures as a method of performance improvement.
52. The amount of recognition you get of your accomplishments from your chairperson (or supervisor).

APPENDIX III
LETTER TO PRESIDENTS

LETTER TO PRESIDENTS

Dear Dr. _____:

I would like to include a portion of the faculty of _____ in the national sample for my doctoral research. This study is being conducted through the University of Florida's Institute of Higher Education and the Department of Instructional Leadership and Support. My committee chairman is Dr. Al Smith, Assistant Director of the Institute of Higher Education.

This study investigates the work experiences of community college instructors. I feel it is important to understand the dynamics of the career process so that we are better able to use the full potential of the faculty. The investigation is not an organizational study--I am not comparing faculty across institutions. I am only interested in studying the professional role of the community college instructor, in general.

The survey instrument that I used for my pilot study is enclosed. The final version may be changed slightly after I complete the analysis of the data from the pilot research. Completing the questionnaire should take a faculty member only 15-25 minutes. I would like to distribute the instrument through campus mail, if possible. Dr. _____ has agreed to act as the facilitator for this project at your college if you agree to my surveying the faculty.

Once the selected instructors have completed the questionnaire, they are to return it directly to me in the stamped, pre-addressed envelope that I will provide. Their responses will be confidential, and no college or individual names will be mentioned in the dissertation. I will provide you and any interested faculty with an abstract of the results once my dissertation is completed later this summer.

I have also provided a "Statement of Permission" and a stamped return envelope for your convenience in replying to my request. Since I would like to distribute the surveys during the week of April 13, I would appreciate your prompt consideration of my request. If you have any further questions concerning my research, please contact me at the University of Florida, 2423-B Norman Hall, Gainesville, FL 32611 or 904/392-2391. Thank you for your assistance in this project.

Sincerely yours,

Cheryl L. Willis-Breeden

APPENDIX IV
TRANSMITTAL LETTER TO INSTRUCTORS

TRANSMITTAL LETTER TO INSTRUCTORS

Dear Colleague:

You have been selected to participate in a national study of community college instructors conducted by the University of Florida's Institute of Higher Education. This project represents a systematic attempt to gather ideas from community college instructors about their work experiences. Such information is important for the continued improvement of knowledge concerning the professional role of community college instructors. Dr. _____ has approved the distribution of this instrument through the campus mail, and Dr. _____ has agreed to serve as on-campus facilitator for this project.

All information collected from the attached questionnaire will be treated in confidence. The survey forms have been coded for research purposes only, and no attempt will be made to identify individual responses. Instructions for completing the questionnaire are included in each section of the survey, and it should take no more than 15-25 minutes to complete. A stamped, pre-addressed envelope is enclosed for your convenience in returning the survey. Please return the questionnaire by May 6, 1981, if possible.

The faculty of a community college is its most important resource. We believe this research will provide valuable information concerning community college faculty. The findings of this study cannot be considered reliable, though, unless nearly 100 percent of the instructors surveyed respond, so please return your completed Work Experiences Questionnaire now. You will receive a summary of the findings. Thank you for your cooperation.

Sincerely,

Cheryl L. Willis-Breeden

Enclosures: 2

APPENDIX V
FOLLOW-UP LETTER TO INSTRUCTORS

FOLLOW-UP LETTER TO INSTRUCTORS

Dear Colleague:

Two weeks ago you should have received the Work Experiences Questionnaire. You have been specially selected for participation in this national study, which is designed to obtain information on the professional role of community college instructors.

If you have already responded, thank you for your participation; and you will receive a summary of the findings shortly after completion of the data analysis. If you have not responded, please take 15-25 minutes of your time now to complete the questionnaire. Your work experiences are unique and really should be included in this research. The findings of this study cannot be considered reliable unless nearly 100 percent of the instructors respond. Another questionnaire and pre-addressed, stamped envelope are enclosed for your convenience in replying.

Your participation in this national study will result in a better understanding of the work experiences of community college instructors. All individual responses will be kept in strict confidence. Please complete and return the survey form now so that your response will be received by May 18, 1981.

Sincerely yours,

Cheryl L. Willis-Breeden

Enclosures: 2

APPENDIX VI
RESPONSE RATE BY COLLEGE

TABLE XVII
RESPONSE RATE BY COLLEGE

College	Number of Instructors Surveyed	Number of Questionnaires Returned	Percent of Questionnaires Returned	Number of Usable Questionnaires Returned	Percent of Usable Questionnaires Returned
A	58	34	59	29	50
B	122	82	67	79	65
C	22	17	77	17	77
D	41	26	63	23	56
E	59	33	56	33	56
F	52	34	65	33	63.5
G	54	34	63	34	63
H	<u>75</u>	<u>52</u>	<u>69</u>	<u>49</u>	<u>64</u>
	483	313	65	297	62

APPENDIX VII
MEANS AND STANDARD DEVIATIONS FOR ITEMS 6-114

TABLE XVIII
MEANS AND STANDARD DEVIATIONS FOR ITEMS 6-114

Item	\bar{X}	SD
6	3.858	.911
7	3.042	1.036
8	3.722	.925
9	3.854	1.100
10	3.666	1.169
11	3.201	1.227
12	3.376	1.270
13	3.165	1.161
14	3.673	1.098
15	3.537	.856
16	3.693	.994
17	3.610	.884
18	3.686	1.192
19	3.580	.920
20	3.607	1.190
21	3.402	1.068
22	2.696	1.058
23	3.419	1.161
24	2.696	.949
25	2.950	.876
26	3.623	.940
27	3.531	1.181
28	3.033	1.057
29	3.788	.939
30	3.468	1.060
31	3.135	1.195
32	3.092	1.081
33	3.056	1.085
34	3.679	.857
35	3.643	.894
36	3.369	.950
37	2.501	1.150
38	3.953	.982
39	3.366	1.131
40	3.330	1.056
41	3.702	.840
42	3.392	.884
43	3.339	.887
44	3.132	1.131
45	3.165	1.025

(Continued)

TABLE XVIII--CONTINUED

Item	\bar{X}	SD
46	3.537	1.078
47	3.867	.911
48	3.386	1.091
49	3.732	.908
50	2.759	1.105
51	3.986	.913
52	3.260	1.116
53	2.970	1.014
54	2.864	.930
55	4.442	.657
56	4.330	.692
57	4.214	.863
58	3.957	.956
59	4.389	.614
60	3.521	1.184
61	4.036	.903
62	2.950	1.142
63	2.075	1.011
64	2.392	1.026
65	3.834	.800
66	4.198	.671
67	3.696	.920
68	3.300	1.124
69	5.795	1.138
70	6.440	.878
71	5.554	1.269
72	5.686	1.600
73	5.336	1.464
74	4.745	1.506
75	6.141	.974
76	5.811	1.421
77	4.755	1.356
78	5.240	1.415
79	5.036	1.345
80	5.765	1.092
81	6.042	1.074
82	6.079	.917
83	5.544	1.227
84	5.768	1.079
85	6.217	1.044

(Continued)

TABLE XVIII--CONTINUED

Item	\bar{X}	SD
86	6.158	.877
87	6.165	.879
88	6.056	.931
89	6.122	.896
90	6.201	.724
91	6.082	.936
92	5.867	1.137
93	5.792	1.349
94	5.772	1.155
95	5.102	1.469
96	5.719	.985
97	1.993	1.268
98	1.907	1.385
99	2.660	.857
100	2.693	.806
101	2.864	.550
102	2.389	1.085
103	2.326	1.110
104	1.382	.979
105	2.551	.915
106	2.900	.456
107	1.841	1.342
108	1.742	1.225
109	2.600	.921
110	.448	.907
111	1.293	1.372
112	2.521	1.019
113	1.194	1.361
114	2.679	.829

BIOGRAPHICAL SKETCH

Cheryl Lynn Willis was born in Texas City, Texas. She attended elementary and secondary schools in Bay City, San Marcos, and Stockdale, Texas. She graduated from Bay City High School in 1967. In 1971, she received the Bachelor of Business Administration from Texas Christian University in Fort Worth, Texas. She worked in Houston, Texas, and Washington, D. C., before attending Texas A & M University in College Station, Texas, where she received the Master of Education degree in 1974. She taught in the East Central Independent School District in San Antonio, Texas, and at College of the Mainland in Texas City, Texas. While on leave of absence from College of the Mainland in 1978-79, she began work on her doctorate at the University of Florida. During this time she was employed as a graduate assistant in the Editorial Department of the Institute of Food and Agricultural Sciences and the Department of Instructional Leadership and Support. Currently, she is a graduate assistant in the Institute of Higher Education, serving as assistant on the National Faculty Evaluation Project for Community Colleges. She will begin work in August, 1981, as assistant professor of Higher Education at the University of Houston, Clear Lake City.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Albert B. Smith III
Albert B. Smith III, Chairman
Professor,
Instructional Leadership and
Support

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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